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UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE

NORTHEASTERN REGION
AGRICULTURAL RESEARCH CENTER
BELTSVILLE, MARYLAND 20705

NOTES FROM THE DIRECTOR

No. 70

January 2, 1976

The Holidays are now behind us and we can settle down to the business of a new year.

As we begin this new Calendar Year, we would normally be at the mid-point of the current Fiscal Year. Both 1976 and FY-76 will not be normal years. Our Bicentennial Year is 1976. FY-76 will cover the period July 1, 197⁵, through September 30, 1976, a period of 15 months instead of the usual 12 months.

We have some good news on fund releases. Unfortunately every Laboratory has not received increases, but this broad infusion should help boost morale and instill renewed confidence in our ability to meet the Nation's challenge to agriculture with our plans, goals, and ideas. We have proven that we can take obstacles in stride, but we should not allow ourselves to be carried away with undue optimism for future funding support of similar magnitude. Rather, we should seize upon the opportunities of today in putting the funds available to us to the most effective use and managing them in the most productive and efficient manner. This is particularly important where discretionary funds are being provided for shoring up research activities which were in a precarious financial condition. We should preserve the more favorable balance of salary to all other funds which these additions provide.

Specifically, BARC has received the following increases:

<u>Source of Funds and Benefiting Units</u>	<u>Purpose</u>	<u>Net Dollar Amount (See Footnote)</u>
1. ANNUALIZATION OF FY-75 PROGRAM INCREASES, BARC		
AEQI	Nitrogen nutrition	\$ 22,000
APGI - <i>Reproductive</i>	Reducing cost of red meats	16,500
NI -	Nutrient composition of food;	
<i>Vit + Min Nutr</i>	Human nutrient requirements;	
<i>Reum Nutr</i>	Reducing cost of red meats	143,800
PGGI	Reduce genetic vulnerability	17,800
PPHI	Improved oil crop production	13,600

<u>Source of Funds and Benefiting Units</u>	<u>Purpose</u>	<u>Net Dollar Amount (See Footnote)</u>
2. BALANCE FOR FUEL, FEED, FERTILIZER & ELECTRICITY DEFICIT, BARC		
DOBA	Completes recovery of deficit	692,100
AEQI	" " " "	6,800
API	" " " "	15,800
APGI -	" " " "	55,200
NI -	" " " "	41,400
PGGI	" " " "	3,000
3. FY-76 PROGRAM INCREASES, BARC		
AEQI	Environmental protection	68,000*
AMRI	Food & feed grain production marketing (65,400); Animal transportation (42,000)	107,400*
APGI - <i>Avian Phys.</i>	Animal protein production	149,600* ✓
NI, <i>Non-Rum. An. Nuts</i>	Animal protein production	73,700* ✓
PGGI	Genetic vulnerability	180,600*
PPII	Energy conservation development (199,00); Genetic vulnerability (249,300); Environmental Protection (83,100)	531,400*
PPI	Soybean production	50,400*
4. CONGRESSIONAL HIGH PRIORITY ITEMS, BARC		
AEQI <i>Insect Chemosterilant</i>	Boll weevil	25,100*
PGGI <i>Tobacco</i>	Tobacco research	63,000*
Subtotal		\$ 88,100*
5. ADMINISTRATOR'S DISCRETIONARY FUNDS, BARC		
AEQI/Biol. Waste	Salary (33,800) and Nitrogen research (15,000)	48,800
Mgmt. & Soil Nitro.	Supplies & equipment	40,000
AMRI/Post Harvest	Broad form C/A (6,000); supplies (13,000); extramural (6,000); equipment & other services (7,000)	32,000
NI/Carbo. Nutr.	Shoring up (Dietitian, etc.)	43,000
NI/Lipid Nutr.	Shoring up	35,000
PPII/Hydro. Data	Shoring up other than viroids	30,000
PPI/Plt. Viro.		

Source of Funds and Benefiting Units	Purpose	Net Dollar Amount (See Footnote)
6. OTHER HIGH PRIORITY NEEDS, BARC		
PPI/Bio. Bee	Bee research	\$ 50,000
7. DEPUTY'S DISCRETIONARY FUNDS, BARC		
AEQI/Org. Chem. Syn.	Salary	26,500
AEQI/Chem. & Bioph. Control	Shoring up	25,000
AEQI/Biol. Act. Nat. Prod.	Shoring up	13,500
APGI/Nutr. Util.	Shoring up	5,000
PGGI/Plt. Tax.	Shoring up	5,000
PGGI/Fruit	Shoring up	5,000
PPI/ Mycology	Salary and shoring up	10,000
PPI/Nematology	Shoring up	15,000
PPI/Soilborne Dis.	Shoring up	15,000
PPI/App. Path.	Plant Disease Reporter	15,000
IIBIII/Sys. Ento.	Salary	15,000
8. DEPUTY RESERVE		
a. Prior Commitments-Permanent, BARC		
PGGI/Veg.	Salary	12,500
b. Prior Commitments-Temporary, BARC		
AEQI/Chem. Coord. Unit	Typist for computerization program	2,700
AMRI/Post Har. Plt.		
Phy.	Equipment (13,000), Supplies (5,000)	18,000
APGI/Anml. Impr. Pro.	Support services	11,600
PGGI/Fruit	Farm services and support	40,300
PPI/Bio. Bee	T. J. Clark's relocation from Fresno, CA (unused portion to be returned)	13,000
PPI/Nematology	Supplies and materials	10,000
PPI/Office of Chairman	Design of 3rd floor Bioscience Bldg.	33,000
c. New Commitments-Temporary, BARC		
AEQI/Bio. Eval. of Chem.	Cage washer	11,000
AEQI/Biol. Act. Nat. Prod.	Development of use of new insect growth regulator	6,500
AEQI/Org. Chem. Syn.	Shoring up	5,000
AEQI/Chem. & Bio. Control	Shoring up	5,000
NI/Nutr. Comp.	Renovation	25,000
PGGI/Veg.	Shoring up	10,650

<u>Source of Funds And Benefiting Units</u>	<u>Purpose</u>	<u>Net Dollar Amount (See Footnote)</u>
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c. New Commitments-Temporary, BARC (Con't)

PPHI/Agri. Equip.	Equipment	\$ 3,500
PPI/Insect Path.	Safety equipment (Whitcomb)	10,000
PPI/Soilborne Dis.	Atomic absorption spectrophotometer	11,350

NOTE: Net dollar amount is the net funding level to benefiting unit. Location support costs were not deducted; however, 1 percent Deputy Reserve was deducted from FY-76 Program Increases money and these amounts appear with an asterisk.

RECAPITULATION OF FY-76, NER FUNDING DECISIONS-BARC

<u>FY-75 Program Annal.</u>	<u>Fuel, Feed, Fertilizer etc.</u>	<u>FY-76 Program Increases</u>	<u>Congr. High Priority Items</u>
\$213,700	\$ 814,300	\$1,161,100	\$88,100
<u>Adminsitrator's Discretionary Funds</u>	<u>Other High Priority Needs</u>	<u>Deputy's Discretionary Funds</u>	<u>Deputy Reserve</u>
\$228,800	\$ 50,000	\$150,000	\$229,100
<u>TOTAL</u>			
\$2,935,100			

Teamwork - Teamwork is easier to talk about than to produce. Each of us has his or her own likes and dislikes, personal ambitions and share of fixed ideas about how things should be done. Also, rivalries are bound to crop up between individuals in different jobs no matter how much we wish they wouldn't. A lot of people tend to think their contribution is more important than the next fellow's. When differences arise, it's hard to put your own interests second and do what's best for the outfit. Nevertheless, it's the only way to have a good team or a good organization. A good way to start is to get in the habit of thinking of yourself and everyone else in the organization as working toward the same goal, backing each other up to get the job done. How well you work to this end is an important measure of your total contribution. Some people won't cooperate because they think they'll be taken advantage of and wind up doing more than their share. Others think someone else might grab the credit for their efforts. A few don't

cooperate because they think that other people's work isn't as important as theirs. One excuse is as shortsighted as the other--none of them will help make you or BARC a real winner. Your cooperation is important to the success of BARC and BARC's success is important to you. Every organization needs people working together. We sink or we swim together. The increased fundings reflect confidence in our ability to get the job done. Teamwork is an important part of measuring up to these expectations.

Special Detail - Dr. C. E. Weir, Assistant Director, is on special detail through January preparing a report on the status of human nutrition research. The report is one of a series evaluating human nutrition research in the U.S. undertaken for the Agricultural Research Advisory Committee, USDA.

ARS Cost For FTS - The cost has increased from \$306,585 in FY-74 to \$620,864 in FY-75 and to \$717,250 in FY-76. Control of the use of the FTS network must be emphasized to reduce the number of calls to those essential to efficient program requirements.

Safety

January-Wintertime Safety - Bad weather, winter sports, and more time spent indoors bring special safety problems. Avoid them: Drive with extra care on wet or slick roads. Keep walks and steps clear of ice, snow, mud, etc. Keep portable heaters away from combustibles. Dress warmly and limit exposure to severe cold and wind. Treat frostbite with warm water 108-122°F but never hotter, never rub a frozen part nor expose it to open fire or other intense heat, keep victim warm after re-warming. Avoid spilling volatile fuels on hands or clothing in cold weather. Watch long scarves, heavy gloves and clothing, etc., around moving parts. Operate and maintain snowmobiles as outlined in owners manual--pay particular attention to safety rules.

Biographical Sketch

George A. White was born in Bentley, Illinois. He received his B.S. and M.S. degrees in Agronomy in 1957 and 1958 from the University of Illinois and his Ph.D. in Agronomy from the University of Minnesota in 1961.

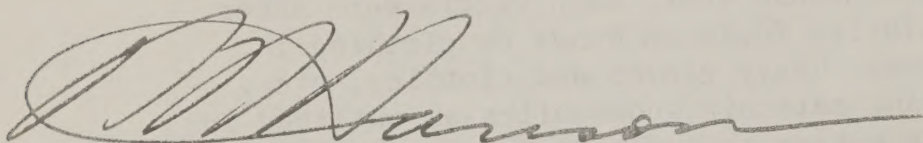
He joined ARS as a Research Agronomist at Beltsville in 1962. He became an Investigations Leader in 1964 for New Crop Development. Concurrent with the reorganization, he became Chief, Germplasm Resources Laboratory, PGGI.

Dr. White has coordinated and conducted significant research on the agronomic development of potential new crops. Research under his direction on Kenaf (source of paper pulp) has led to the identification of nematode-resistant lines and to the development of cultural and harvesting information. A comprehensive cooperative publication has

been accepted worldwide. He has contributed to the development of Crambe (oilseed) through coordination of research, publication of timely papers, and collection and procurement of valuable germplasm for breeding purposes. Both kenaf and crambe have good potential for becoming important new industrial crops. Dr. White has also provided leadership in the development of other new crop species including Limnanthes (possible sperm whale oil substitute), Stokesia laevis (epoxy oil)--including assemblage of germplasm for agronomic and ornamental development--and has been involved in the evaluation of many other new crop leads. Only a few of the 162 species that underwent preliminary evaluation showed good agronomic potential as new crops. Noteworthy species with good agronomic and chemical potential were Briza humilis (glycolipids), Crepis alpina (oilseed), and Cassia occidentalis (seed gum). Time of harvest and post-harvest storage of Vernonia anthelmintica seed greatly affected germination, seed longevity, and quality of the oil. An after-ripening period is required for good germination. Post-frost harvest resulted in poor quality seed with low germination, low oil, and poor oil composition.

Dr. White has been personally involved in the collection of wild species of Stokesia laevis, adding 23 wild accessions to the small germplasm base of S. laevis. He also travelled to Israel, Cyprus, Italy, Morocco, Portugal, and Spain for the collection of ninety wild accessions of Crambe, some of which were relatively rare.

Dr. White is a member of Phi Kappa Phi, Alpha Tau Alpha, and Gamma Sigma Delta. He was a member of the team receiving a USDA Superior Service Team Award for excellence of Research on Crambe in 1966. He is a member of three professional societies and has participated in numerous technical conferences and workshops.



A. A. Hanson
Director, BARC

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NOTES FROM THE DIRECTOR

No. 71

January 15, 1976

JANUARY - "The first month of the year, January, is a month of beginnings-- a portal, according to the poet, Henry W. Longfellow, through which the 'years come and go.' It was named after Janus, the Roman god of 'openings.' Janus was a double-headed, two-faced deity with one face looking backward, the other forward. This is symbolic of the month which inspires thought of the past along with hope for the future."--from Cooperative Extension Service News, University of Kentucky College of Agriculture.

Legislative News

Introduced: H.R. 11154, on Dec. 15, by Robert F. Drinan (D-MA), a bill to amend the Solid Waste Disposal Act to encourage research, development, and implementation of energy and resource recovery from solid waste, and for other purposes. Referred jointly to Committees on Interstate and Foreign Commerce and Science and Technology, as were the earlier bills for the same purpose--H.R. 10036 and H.R. 10037--introduced by Rep. Drinan in October. . . . H.R. 11339, on Dec. 19, by Wm. C. Wampler (R-VA), a bill to establish a National Agricultural Research Policy Committee and for other purposes, was referred to Committee on Agriculture. Mr. Wampler's remarks on the proposed legislation are on page H13202 of the Congressional Record of Dec. 19.

Ready for Mark-Up by Senate Subcommittees: H.R. 10230, National Science and Technology Policy Organization Act, which passed House in November. Final Senate action is expected soon after Congress reconvenes.

New Under Secretary of Agriculture

The White House announced that John Knebel, Washington attorney, will be nominated as Under Secretary of Agriculture and a director of Commodity Credit Corporation. Position is now held by J. Phil Campbell, whose resignation due to health reasons becomes effective middle of this month. Knebel was USDA general counsel from Jan. 1973 until last April, and earlier served as general counsel to Small Business Administration. Meanwhile, Senate Agriculture Committee approved nomination of William Walker as Assistant Secretary of Agriculture for Rural Development. Nomination must now be confirmed by full Senate--from Southeast Farm Press, December 17, 1975.

New Laboratory Chief

Dr. Aref Abdul-Baki has been appointed Chief, Seed Research Laboratory, AMRI. He replaces Mr. Carlton S. Garrison who left ARS in July to accept a special assignment with the United Nations. Dr. Abdul-Baki was formerly a member of the Seed Quality Laboratory and had transferred to the Post-Harvest Plant Physiology Laboratory with the ARS reorganization in 1972. Mr. M. E. Whitten served as Acting Chief following Mr. Garrison's departure until Dr. Abdul-Baki's appointment was effected. We wish to express our thanks to Mr. Whitten for his service as Acting Chief.

Dr. Helene C. Cecil has been appointed Chief, Avian Physiology Laboratory, APGI. Dr. L. B. Crittenden was Laboratory Chief before he transferred from BARC.

New Acting Laboratory Chief

Dr. Donald K. McLoughlin has been appointed Acting Chief, Poultry Protozoan Diseases Laboratory, API (see item below). He replaces Dr. D. J. Doran, Chief, Histoprotezoan Diseases Laboratory, who requested to be relieved of these duties when the Laboratory was renamed. We wish to express our thanks to Dr. Doran for his services as Laboratory Chief.

Renaming Laboratories

The Haemoprotezoan Diseases Laboratory, API, has been renamed the Livestock Protozoan Diseases Laboratory. Dr. T. O. Roby continues as Chief. This Laboratory conducts research on protozoan diseases of horses, cattle, sheep, and other classes of livestock. Diseases presently under investigation are anaplasmosis of cattle, sarcosporidiosis of cattle and sheep, and babesiosis (piroplasmosis) of equids. Basic studies are conducted on the life cycles, ultrastructure, and biological properties of the parasites. Scientists are investigating also new and improved methods of diagnosis, treatment, and control of the diseases.

The Histoprotezoan Diseases Laboratory, API, has been renamed the Poultry Protozoan Diseases Laboratory. Dr. D. J. Doran was Chief but requested to be relieved of these duties. Dr. D. K. McLoughlin has been appointed Acting Chief. Primary investigations are conducted on coccidiosis of chickens and turkeys and on histomoniasis (blackhead) of turkeys and other gallinaceous birds. All phases of the parasite life cycles are studied as are the effects of drugs of known or potential value for controlling the diseases. Studies of drug resistance by poultry protozoan parasites are a major activity of scientists in this Laboratory.

New Employees

Dr. David Stiller, Research Entomologist, joined the staff of the Livestock Protozoan Diseases Laboratory, API, on November 24, 1975. Dr. Stiller is conducting research on the transmission of bovine anaplasmosis and equine piroplasmiasis by arthropods. He was previously employed by the University of California, Berkeley, and has recently completed a two-year assignment in Kuala Lumpur, Malaysia, where he conducted studies on the biology of Malaysian ticks and mites.

Dr. Richard Anderson joined the staff of the Vitamin and Mineral Nutrition Laboratory, NI, on December 8. Dr. Anderson is a native of Minnesota and received his undergraduate training at Concordia College, Moorhead, MN. His graduate studies were at Iowa State University, Ames, where he earned his Ph.D. in 1973. He has since been at MIT on a postdoctoral appointment in the laboratory of Dr. Bert Vallee. Dr. Anderson's research interests have been in metal-protein interactions and his research problem will be the isolation and metabolic function of nutritionally important naturally occurring organometallic complexes in foods.

Cooperative Research

Since 1970, the Vector Biology and Control Unit, World Health Organization (WHO), with the assistance of outside collaborators, has prepared a number of extensive guides on disease vector control. One of the latest of these is a 48-page document on the public health significance, geographic distribution, recognition, ecology, and control of the 20 most important domiciliary cockroaches of the world with notes on several others. Cockroaches have been shown to harbour pathogenic bacteria, serve as intermediate hosts for pathogenic helminths, and to carry helminth eggs, viruses, protozoans, and fungi affecting man and vertebrate animals. Dr. Ashley B. Gurney formerly a member of, and now a Resident Cooperating Scientist with, the Systematic Entomology Laboratory, IIBIII, has provided much of the information pertinent to the classification, identification, and recognition of these cockroaches for inclusion in this manual. Included in the discussion of each insect are descriptions enabling users to identify the particular species, and an entire section of the publication is devoted to an identification key to the chief included species. The paper is illustrated with photographs of the adult cockroaches and drawings of eggs and morphological details which aid in species identification. There also is an extensive list of literature references.

Mr. Robert A. Pyles, Department of Chemistry, Texas A&M University, College Station, Texas, will be on a six-month postgraduate program in the Pesticide Degradation Laboratory, AEQI, to isolate and identify the natural forms of arsenic found in certain aquatic organisms. This is a cooperative venture between the Pesticide Degradation Laboratory and the Department of Chemistry at Texas A&M to learn more about the environmental significance and fate of arsenic.

Dr. Mary Ellen Dix, Shelterbelt Laboratory, USDA Forest Service, Bottineau, North Dakota, visited the Biologically Active Natural Products Laboratory, AEQI, on December 23 to discuss with Mr. Martin Jacobson the results of a cooperative 1975 field trapping program using forest insect sex attractants in four areas of North Dakota, three areas of South Dakota, and an area of Montana. Large numbers of male southwestern pine tip moth (*Rhyacionia neomexicana*), *Petrova luculentana*, and *Chironodes* sp., all of which are destructive to pine seedlings, were captured with four chemical compounds synthesized and formulated by BANPL. Plans were made for more extensive field trials in 1976 involving BANPL, FS, landowners and managers of ponderosa pine plantations in five states.

National Livestock and Meat Board met in Chicago, Illinois, December 4 to plan new research on the nutrient content of beef, raw and cooked. Chairman of the session was Dr. Katsuto Ono, Meat Science Research Laboratory, AMRI. Attending were representatives from the Agricultural Experiment Stations in North Dakota, Michigan, Kentucky, and Oklahoma, and from the Eastern Regional Research Center, ARS. Mrs. Murphy, CPA, reported on the status and organization of CFEI's Nutrient Data Bank, outlined the plans for revising Agriculture Handbook 8, "Composition of Foods--Raw, Processed, Prepared," and provided background information on the basis for data on nutrients in beef in the current Handbook 8. Dr. Ono is drawing up plans for cooperative research on the effects of cooking on nutrient content of beef. With proper funding, this research could provide benchmark data for this important food for use in our tables of food composition--from NOTES FROM THE AREA DIRECTOR, CPA, No. 75-24, December 23, 1975.

The American Dietetic Association met in Washington, D.C., December 6, to discuss Hot Issues and Answers in Nutrition. The morning session featured the following speakers: Dr. Walter Mertz, Chairman, Nutrition Institute; Cortez Enloe, M.D., Editor of Nutrition Today; and William O. Dobbins, M.D., Professor of Medicine and Director of Division of Gastroenterology at George Washington University Medical Center. Topics of their presentations included trace elements, dietary fiber, and the treatment of malnourished patients in the hospital. In the afternoon session, Marjorie Whiting, Ph.D., an anthropologist, and a panel of dietitians participated in a discussion of cultural patterns in nutrition programs--from NOTES FROM THE DIRECTOR, CPA, No. 75-24, December 23, 1975.

Edward W. Baker, Systematic Entomology Laboratory, IIBIII, is coauthor of a book "Mites Injurious to Economic Plants" which was recently published by the University of California Press. Dr. Baker shares authorship with L. R. Jeppson, University of California, Riverside, and H. H. Keifer, California State Department of Agriculture. The book gives comprehensive coverage to the systematics, biology, physiology, economic importance, and control of economic plant feeding mites of the world. It is the result of fifteen years of intensive work on the subject and will prove to be extremely valuable as an acarology (study of mites) text and as an information source for the identification and control of economic mites for workers in the field.

Louise M. Russell, Resident Cooperating Scientist, Systematic Entomology Laboratory, IIBIII, presented an invited paper, "Whiteflies on beans in the Western Hemisphere, their biology and identification," at a Workshop held at Centro Internacional de Agricultura Tropical, Cali, Colombia, December 1-3. Miss Russell also participated in discussions of insects injurious to beans and cassava in Latin America, and attended the XV Meeting of the American Phytopathological Society, Caribbean Division, held at CIAT, December 4-6.

Appearance on the TODAY Show - Thursday, February 19, 1976, has been set as the day for Dr. H. M. Cathey, Chief, Ornamentals Laboratory, PGGI, to appear for the tenth time on the NBC television network -- the TODAY Show. The show will be on SEED - THE EXAMPLE OF PERFECT PACKAGING FOR GARDENERS. The show will stress types of seeds, purchasing seeds, preparation of planting container, preparation of growing media, planting seed (large and small), germination environment, light requirements, watering and fertilizing, transplanting, and possibilities for new experiences.

*Cell Culture
& Nitro
Fertilizer
PPHI
42104*

New Strain of Birdsfoot Trefoil Tolerant to Herbicide 2,4-D - Dr. Thomas E. Devine, Applied Plant Genetics Laboratory, PGGI; Dr. D. L. Linscott, ARS, Ithaca, New York; and Dr. R. R. Seaney, Cornell University, reported that for the first time, successive generations of selection have been used to develop herbicide tolerance in a forage plant. The plant, a new strain of birdsfoot trefoil, is tolerant to the herbicide 2,4-D. Birdsfoot trefoil is a forage crop grown mainly in the Northeastern and North Central States. Competition from weeds often severely limits the establishment and maintenance of pastures seeded with birdsfoot trefoil. However, development of the new 2,4-D tolerant strain, T-68, offers promise that 2,4-D, an inexpensive and relatively safe herbicide, can be used to effectively control weeds in fields of trefoil. T-68 was developed over five generations of selection. The new strain is 3 to 5 times more tolerant to 2,4-D than Viking, one of the most commonly grown varieties of trefoil. Though 2,4-D slightly damages the leaves of T-68, it recovers quickly whereas Viking does not. 2,4-D is relatively safe to use, effective, and inexpensive, and there is only a short waiting period before livestock can graze treated pastures. The new trefoil strain, released jointly by the Agricultural Research Service and the New York Agricultural Experiment Station, Ithaca, will be used by plant breeders to develop new varieties of herbicide-resistant trefoils and to study mechanisms of herbicide activity.

New Assignment - Dr. Joseph H. Graham, Plant Stress Laboratory, PPHI, has been placed in charge of program development for evaluation of biomass farming for ARS. Research on high yielding crops for bioconversion to clean hydrocarbon fuels is part of the Department's solar energy program. Dr. Graham is still assigned to the Plant Stress Laboratory.

Symposium Organizers - Dr. Ralph E. Webb, Ornamentals Laboratory, PGGI, and Dr. Floyd Smith, retired former BARC employee, are organizing a symposium, "Pest Management in Protected Culture Crops", to be held in conjunction with the XV International Congress of Entomology, Washington, D.C., August 19-27, 1976.

BARC to Host Symposium - A symposium, "Plants Across the Seas", will be held in the Auditorium, Building 003, BARC, April 8. The symposium will be sponsored by the American Horticultural Society and the Horticultural Committee of the Garden Club of America. Speakers and their topics include: Mrs. Sheila Macqueen, England's foremost flower arranger--Flower Arrangement Demonstration; Mrs. Frances Perry, Royal Horticultural Society--British Gifts to American Gardens; Dr. John Creech, Director, National Arboretum--Oriental Gifts to American Gardens; Dr. H. Marc Cathey, Chief, Ornamentals Laboratory, PGGI--American Gifts to American Gardens--Star Spangled Plants.

Resolution Adopted by NCR-22, Small Fruits Committee - Whereas Dr. Donald H. Scott has shown extraordinary leadership to the small fruit industry of the United States, dedication to the highest principles of scientific research exemplified in the development of superior cultivars of strawberry, blueberry, and blackberry, sponsored national and international cooperation among fruit breeders, pathologists, horticulturists, and growers, developed a national program for the release of disease-free stocks of small fruits, and encouraged and stimulated a generation of young researchers and horticulturists, be it resolved that the NCR-22 Committee on Small Fruits extends its appreciation, commendation, and deepest respect to Dr. Donald H. Scott upon his retirement from the U.S. Department of Agriculture after years of dedicated service to the small fruits industry of the United States. Dr. D. H. Scott has achieved the highest aspiration of his profession, and we extend our deepest gratitude, best wishes, and affection.

Resolution moved and adopted at the NCR-22 Small Fruits Committee annual meeting, Conrad Hilton Hotel, Chicago, Illinois, November 6, 1975. (Signed by D. D. Hemphill, Chairman, NCR-22, and M. N. Dana, Secretary, NCR-22.)

Honors and Awards

Quality Within Grade Increases

Ms. Sarah M. Cooke, Applied Plant Pathology Laboratory, PPI.

Ms. Mary Ann Grier, Ruminant Nutrition Laboratory, NI.

Cash Awards

Ms. Sally M. Foster, Chairman's Office, NI, for performing secretarial duties pending recruitment of a permanent secretary for the new Nutrient Composition Laboratory with a degree of efficiency, dedication, and effort far above normal.

Dr. Lawrence A. Johnson, Reproduction Laboratory, APGI, for outstanding performance as representative of the Laboratory in planning and overseeing construction of laboratories and offices in Building 200.

Mr. John M. Weaver, Feed Energy Conservation Laboratory, NI, for suggested award that described ways to save time required to prepare, dispense, and sterilize anaerobic media. The method employs a manifold system and Cornwall Pipettor. By using this procedure, one can prepare tubed media in approximately one-third of the time required using the standard anaerobic method. Also, no special training is necessary to use the manifold system.

Other Awards

Volume 1, No. 2, of the International Journal of Acarology is dedicated to Dr. Edward W. Baker, Systematic Entomology Laboratory, IIBIII, "in the honour of his great contribution to acarology," and the Journal's Advisory Board has made him the recipient of the first Berlese Award. Dr. Baker's research on the biology and systematics of mites is a landmark contribution to the international study of mites.

Dr. Reece I. Sailer, former Chairman, IIBIII, and at present Professor, Department of Entomology and Parasitology, University of Florida, Gainesville, has been elected President-elect of the Entomological Society of America and will take office as President of that Society in December 1976. The Entomological Society of America is the third largest non-medical biological society in the United States.

Dr. Raymond J. Gagne, Systematic Entomology Laboratory, IIBIII, was recently elected to a three-year term as Secretary of the Society for Systematic Zoology.

Dr. Willis Wirth and Dr. Douglass Miller, Systematic Entomology Laboratory, IIBIII, were awarded certificates of recognition by the Department of Entomology, University of Maryland, for their many contributions to the graduate program in the Department. Thanks were also expressed to other Systematic Entomology Laboratory specialists for their assistance. These people included: Dr. Gordon Gordh, Dr. Ronald Hodges, Dr. Lloyd Knutson, Dr. Paul Marsh, Dr. Arnold Menke, Ms. Louise Russell, Dr. Curtis Sabrosky, Mr. Robert Smiley, Mr. George Steyskall, Dr. Many Stoetzel, and Dr. Christian Thompson. All were honored by the Department of Entomology during a coffee held on December 17.

Biographical Sketch

Jack R. Plimmer was born in Liverpool, England. He received a BA degree in Experimental Science (Chemistry and Physics) from Trinity College of the University of Dublin in Ireland in 1952 and a Ph.D. in Organic Chemistry from the University of Edinburgh in Scotland in 1955. Following the completion of his Doctorate, he went to the University of the West Indies, Kingston, Jamaica, as an Eli Lilly Research Fellow.

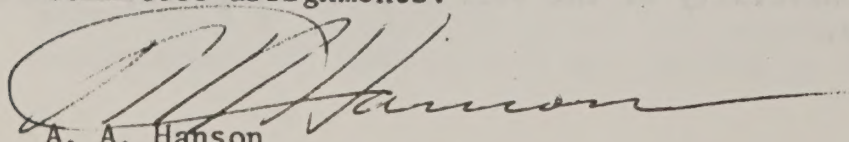
He was employed by the Medical Research Council, University of Exeter in England. He returned to the University of the West Indies as a Research Fellow in the Natural Products Research Institute. While in Jamaica, he became a Lecturer in Physical Chemistry. He was also a Visiting Scientist in the Carbohydrate Research Group, National Institutes of Health.

Dr. Plimmer joined ARS at Beltsville as a Research Chemist in Pesticide Investigation in 1966. Following the reorganization, he was on the staff of the Pesticide Degradation Laboratory, AEQI, until his appointment as Chief, Organic Chemical Synthesis Laboratory, AEQI, earlier this year.

Dr. Plimmer's research at Beltsville has been concerned with the chemistry of pesticide transformation, particularly photochemical reactions and the structure and mechanism of formation of pesticide metabolites. He is a world authority on the photochemical breakdown of organic pesticides and has studied the rate at which 2,3,7,8-tetrachlorodibenzo-p-dioxin, an extremely toxic contaminant (chlorodioxin) in 2,4,5-T herbicide, breaks down in sunlight. He also showed that chlorodioxins were not formed when 2,4-dichlorophenol and 2,4,5-trichlorophenol were irradiated. These phenols are derived from a 2,4-D and 2,4,5-T and the possibility of chlorodioxin formation was a potential environmental problem that could have resulted from their use. Using mass spectrometry, he identified some of the chlorodioxins present in pentachlorophenol, widely used as a wood preservative and fungicide. He has used the same technique for studies of chloroaniline herbicide metabolism and for elucidation of the photolysis products of dinitroaniline herbicides. Aniline-based herbicides are extensively used for weed control in rice and other crops. Dr. Plimmer's investigation of their metabolism in soils has revealed the variety of compounds that are formed before mineralization ultimately occurs. Such facts are necessary to justify the continued safe use of pesticides and insure that environmental contamination is minimized. Similar facts are necessary to guarantee the safety of new herbicides, and his research into the photochemistry of N-sec butyl-4-tert-butyl 2,6-dinitroaniline has identified the major products. The 2,6-dinitroanilines are a new and important herbicide class, and it is expected that their production and use will increase.

As Laboratory Chief, Dr. Plimmer provides scientific leadership, planning, coordination, implementation, review, and evaluation of a broad, complex program of basic and applied research on synthetic and naturally occurring organic compounds useful for insect control.

He is a member of Sigma Chi, has received the Cocker Prizes for Experimental Chemistry, the John Winthrop Hackett Research Prize, and was appointed Honorary Research Assistant at the University College of London. He is a member of several professional societies and has held numerous offices and committee assignments.



A. A. Hanson
Director, BARC

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
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BELTSVILLE, MARYLAND 20705

NOTES FROM THE DIRECTOR

No. 72

January 22, 1976

Quote of the Week: - What is an Agricultural Scientist? - - (excerpts from lead article in November 1975 issue of California Agriculture, by J. B. Kendrick, Jr., V.P., Ag Sciences and Director AES): "Although science and technology have been a central factor in keeping agricultural production abreast of population growth, the 'agricultural scientist' is as misunderstood today as is agriculture itself. . . . an agricultural scientist often is generally placed in a class apart from his or her colleagues in the 'pure' sciences. . . An agricultural scientist is a chemist, physicist, economist, biochemist, microbiologist, geneticist, zoologist, botanist, engineer, mathematician, or member of some other 'pure' science discipline who is engated in the discovery, expansion or synthesis of knowledge to improve the production and use of food, feed, fiber and ornamentals. Thus the agricultural sciences are simply an aggregation of recognized sciences directed toward solving problems that impede the accomplishment of these objectives.

"In some measure, agricultural scientists have created a climate of isolation and misunderstanding for themselves. . . . Generally speaking, by design or for lack of invitations to do so, they have not participated broadly in study groups and meetings concerned with national issues and policies. . . . This tendency to remain independent of the larger scientific community has deprived the agricultural sciences of informed criticism and interdisciplinary interchange essential to growth, increased acceptance, and effectiveness in the larger community.

". . . . In spite of past impressions, representatives from our national network of agricultural scientists concerned with food and fiber research are ably qualified to be involved in science policy formulation at the highest levels of government. As Congress considers the reestablishment of a science advisory capacity to the President of the United States it is urgently appropriate that any plan developed to accomplish that end include a provision to include an 'agricultural scientist' in that advisory capacity. Food production is this country's most successful accomplishment and it deserves the attention and care of both the Congress and the President."

Feedback -- Economist John Kenneth Galbraith remarks: "Nearly all of our political comment originates in Washington. Washington politicians, after talking things over with each other, relay misinformation to Washington journalists, who, after further intramural discussion, print it where it is thoughtfully read by the same politicians. It is the only completely successful closed system for recycling of garbage yet devised."--from Reader's Digest, January 1976.

Correction in Organizational Listing - Previously, the brochure, BARC Organization and Program, listed both the Index Catalogue of Medical and Veterinary Zoology and the National Parasite Collections as Units. The correct listing should be Parasite Classification and Distribution Unit. This Unit is concerned with parasite taxonomic research and with the maintenance and management of two internationally known working tools; namely, the National Parasite Collection and the Index-Catalogue of Medical and Veterinary Zoology. Primary taxonomic investigations involve the development of morphological characters of value in differentiating and identifying animal parasites and the preparation and publication of diagnostic keys to important groups of livestock parasites. J. R. Lichtefels is Unit Head. He is also Curator of the National Parasite Collections. S. J. Edwards is In Charge of the Index-Catalogue of Medical and Veterinary Zoology.

Laboratory Renamed - The Seed Quality Laboratory, AMRI, has been renamed the Seed Research Laboratory.

New Employee - Dr. Lawrence J. Sikora, Research Chemist, joined the staff of the Biological Waste Management and Soil Nitrogen Laboratory, AEQI, on January 5, 1976. For the past two years, he has been employed as a post-doctoral fellow in the Soils Department of the University of Wisconsin where he conducted research on denitrification and sulfur transformations in waste disposal systems. In his new assignment, Dr. Sikora will be concerned with the transformation of nitrogen, phosphorus, and sulfur in municipal sewage sludges during composting and with the agronomic availability of these nutrients after compost application to land.

Cooperative Activities

The New Maryland Wholesale Produce Market Dedicated - The Maryland Food Center Authority held dedication ceremonies and an open house at the Maryland Wholesale Food Distribution Center at Jessup, Maryland, on January 9, 1976. The Center covers 400 acres, of which 38 acres will be devoted to fruits and vegetables. The remaining acreage will be allocated to meats, seafood, dairy products, public and chainstore warehousing. This Center resulted from a USDA study that concluded that there was a need for such a centralized facility. ARS was represented at the dedication by Dr. P. A. Putnam of BARC, Dr. H. S. Ricker of AMRI, Dr. E. E. Finney, Jr. of IRL, and by K. H. Brasfield, E. G. Taylor, and J. J. Karitas of FDRL. Governor Marvin Mandel, Comptroller Louis Goldstein, and Chairman Zei of the Authority speaking at the dedication acknowledged the role of the Department, various State agencies, the University of Maryland, and the assistance of leaders of the fruit and vegetable industry in developing the new market facilities. This market resulted after an ARS study reported in MRR-783, Baltimore Regional Wholesale Food Distribution Facilities. It was further stated that the New Maryland Wholesale Center, the newest and most modern terminal market in the nation, would be serving a prime population area of 15 million consumers.

First Chemical Congress of the North American Continent - Dr. Robert Argauer, Analytical Chemistry Laboratory, AEQI, presented an invited paper in a Symposium at the First Chemical Congress of the North American Continent, Mexico City, November 30-December 4, 1975, entitled "Separation of 1- and 2-Naphthols and Determination of Trace Amounts of 2-Naphthyl Methylcarbamate in Carbaryl Formulations of High Pressure Liquid Chromatography with Confirmation by Spectrofluorometry."

Committee Appointment - Mr. William R. Black, Transportation and Packaging Research Laboratory, AMRI, has been appointed to the Procurement-Subsistence Committee of the American Logistics Association. Other committee members are from A. E. Stanley Manufacturing Company, American Can Company, Foremost International, General Mills, Inc., Keebler Company, Libby Sales Company, and The Quaker Oats Company. The purpose of this working committee is to evaluate critical points of interest in Procurement and Subsistence of primary concern to industry and the Department of Defense; to make recommendations regarding policy, proposed programs and actions; and to provide other vitally needed inputs into ALA National Headquarters, Washington, D.C.

Texas A&M University - Dr. Charles Sloger, Cell Culture and Nitrogen Fixation Laboratory, PPHI, recently presented an invitational seminar in the Soil and Crop Sciences Department of Texas A&M University at College Station, Texas, on December 10, 1975. Dr. Sloger spoke on "Bacteria-Grass Associative Nitrogen Fixation."

Invitational Presentation - Robert C. Mongelli, Market Operations Research Laboratory, AMRI, was invited to speak to the Distribution Management Institute sponsored by the Milk Industry Foundation and the International Association of Ice Cream Manufacturers. He spoke about alternative systems for ice cream delivery. One of the main purposes of the conference was to discuss methods for increasing the efficiency of transportation and physical distribution of dairy products.

University of Maryland - Dr. Douglass Miller, Systematic Entomology Laboratory, IIBIII, recently organized and presented a course at the University of Maryland, Department of Entomology, on the general principles of systematics. Lectures also were given by other members of the Systematic Entomology Laboratory; namely, Mr. George C. Steyskal, Dr. F. Christian Thompson, Dr. Arnold Menke, and Dr. Gordon Gordh. The course was well received by the participating students.

Puerto Rico - Mr. Victor E. Adler, Biologically Active Natural Products Laboratory, AEQI, participated in a Workshop on the Neurophysiology of Insect Chemoreception held December 4-6 at Mayaguez and San Juan, Puerto Rico.

Employee Activities

Entomological Society of America - Eighteen scientists of IIBIII, including Dr. Lloyd Knutson, Institute Chairman, Mr. J. R. Coulson, Chief, Beneficial Insect Introduction Laboratory, and 16 scientists of the Systematic Entomology Laboratory attended the annual National Meeting of the Entomological Society of America in New Orleans December 1-4. Their major contributions to the meeting are as follows: Mr. Coulson presented an invited paper to a joint symposium on natural enemies of pests; Dr. Douglass R. Miller, on mealybugs of the California Channel Islands; Mr. Robert L. Smiley, on morphological characteristics of male mites; Dr. F. C. Thompson, on distribution patterns of predaceous flies; Dr. M. B. Stoetzel, on male scale insects; and Dr. Richard H. Foote, on the need for a thesaurus of entomology. All of the attendees were chairmen or members of committees, supervise research and service programs that were closely related to subject matter discussed at the meetings, or were involved in national or international programs represented by other attendees.

Public Relations - Dr. Robert Argauer, Analytical Chemistry Laboratory, AEQI, gave a PR lecture to members of his church's men's organization entitled "Food Production and Modern Chemical Methods of Birth Control for Insects" on January 12, 1976.

BARC Committee Changes

BARC Safety Committee - Mr. S. F. Tomasetti has transferred from BARC and Mr. R. L. Almond is Acting BARC Safety Officer pending the recruitment of a new Safety Officer.

Calendar of Coming Events

American National Cattlemen's Association, Phoenix, Arizona, January 28-30.
 South East International Poultry Convention, Atlanta, Georgia, January 29-31.
 National Cotton Council Annual Meeting, Biloxi, Mississippi, February 2-3.
 National Livestock Feeders Association, Omaha, Nebraska, February 10-13.
 American Park Congress, Indianapolis, Indiana, March 9-11.
 XV International Congress of Entomology, Washington, D. C., August 19-27.

Safety Film - All BARC employees are urged to attend one of the two presentations of the Safety Film titled Laboratory Safety to be shown in the Auditorium, Building 003, at 2 and 3 P.M. on February 19. This is an excellent film on Laboratory Safety developed by Fischer Scientific. The information gained from the film could save your life or your job, or prevent untold personal suffering.

Civil Service Commission Life Science Registers - The following options under CSC Announcement 421 will be open from January 1, 1976 through March 31, 1976: (a) Agronomy, GS-471-9 to 15; (b) Animal Husbandry, GS-487-9 to 15; (c) Genetics, GS-440-5 to 15; (d) Plant Pathology, GS-434-5 to 15; and (e) Plant Physiology, GS-435-5 to 15. Any employee that is employed under a TAPER authority should apply for the appropriate option as early as possible.

Project Ideas for Young Scientists - The Joint Board on Science and Engineering Education For The Greater Washington Area are considering preparing an updated revision of the publication Project Ideas for Young Scientists. This publication is frequently used as a source of ideas for School Science Fair Projects. Dr. H. Ota, Non-Ruminant Animal Nutrition Laboratory, NI, Room 200, Building 200, extension 42359, would like to receive a paragraph on possible Science Fair Project proposals. If you have ideas, please contact Dr. Ota.

Farm Cooperative to Visit BARC - The Midwest Farm Cooperative plans to bring three bus loads of visitors a day to BARC starting Sunday, January 25 for 21 consecutive days. These public relations efforts help us to communicate the value of BARC to the public.

Visitors

NEW ZEALAND - Dr. Colin Wilcox, Agricultural Research Station, Ruakura, visited with M. Jacobson, Chief, Biologically Active Natural Products Laboratory, AEQI, to discuss the use of attractants and hormones for combating insect pests in New Zealand and Australia.

SWITZERLAND - Dr. K. Szendrei, United Nations Narcotics Laboratory, Geneva, visited with M. Jacobson, Chief, Biologically Active Natural Products Laboratory, AEQI, for a detailed discussion of the chemistry, biological activity, and practical use of various physiologically active plants native to the United States.

ENGLAND - Professor K. Mellanby, Institute of Terrestrial Ecology, Monks Wood Experimental Station, Huntingdon, visited on December 14 with Drs. H. E. Heggstad and J. H. Bennett, Plant Stress Laboratory, PPHI. He is currently editor of Environmental Pollution with a special interest in plants as indicators of pollution. He was formerly head of Agricultural Entomology at Rothamsted.

AUSTRALIA - Dr. Ian Wright, CSIRO, Long Pocket Laboratories, Brisbane, visited members of the Livestock Protozoan Diseases Laboratory, API, and presented a seminar entitled "The interrelationships of Kallikrein activation, shock, and disseminated intravascular coagulation in acute Babesia argentina infections in cattle."

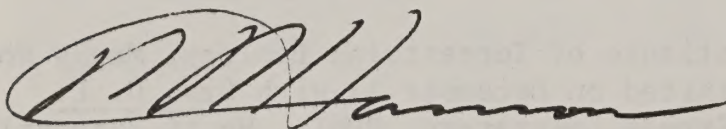
NOTRE DAME UNIVERSITY - Dr. Robert Rew, Department of Biology, visited with members of the Animal Parasitology Institute and presented a seminar entitled "Studies of the Energy Metabolism of Brugia pahangi microfilariae."

POLAND - The Vice Minister of Agriculture, Dr. Henryk Burczyk, along with Professor Stanislaw Starzycki, Mr. Wacław Paszkowski, and Drs. Jerzy Szyrmer and Tadeusz Walski, recently visited with Dr. A. Abdul-Baki, Chief, Seed Research Laboratory, AMRI, to discuss the research program of the Laboratory and methods for assessing seed quality.

URUGUAY - Dr. Jorge A. Estefanell, Cooper Uruguay Ltd., Montevideo, visited the Animal Parasitology Institute in December. While there, he conferred with Dr. F. G. Tromba, Non-Ruminant Helminthic Diseases Laboratory, and Drs. T. O. Roby and W. M. Frerichs, Livestock Protozoan Diseases Laboratory, on problems concerning immunology of parasitic diseases.

DENMARK - Dr. S. B. Mathur, Deputy Director of the Danish Government Institute of Seed Pathology for Developing Countries, visited with Dr. M. M. Kulik of the Seed Research Laboratory, AMRI. In addition to discussing their respective research programs in seed pathology, a plan for a cooperative study between their two laboratories was developed. Dr. Mathur also met with Dr. A. Abdul-Baki, Chief of the Seed Research Laboratory, and with Dr. A. Meiri, a seed pathologist from the Volcani Institute, Bet Dagan, Israel, who is spending her sabbatical year in the Laboratory of M. M. Kulik.

Philosophical Thought for the Month - Success is doing what you like to do and making a living at it. We can't all be heroes all the time because there would be no one left to sit on curb and clap while we go by -- from DSAD Director's Newsletter, January 1976.



A. A. Hanson
Director, BARC

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NOTES FROM THE DIRECTOR

No. 73

February 5, 1976

Special Notice

After Duty Hours Parking (holidays, weekends, and when returning after 4:30 p.m.) - After hours parking is restricted to the regular parking lots with the following exceptions:

1. Buildings 001, 002, 003, 004, 005, and 006--Parking must be in the front of these buildings.
2. Bioscience Building, 011A--Parking in front will be permitted until lights are installed in the parking lot.

People on a standard tour of duty who come to work early should not park in front of Buildings 001, 002, 003, 004, and 005. People staying late in offices and laboratories do not need to move their cars to conform to item 1.

Safety Film - BARC employees are urged to attend one of the two presentations of the Safety Film titled Laboratory Safety to be shown in the Auditorium, Building 003, at 2 and 3 p.m. on February 19. This is an excellent film on Laboratory Safety.

Changes in Committee Membership

BARC Forage Research Committee - Dr. A. M. Heimpel, Insect Pathology Laboratory, PPI, has replaced Dr. George E. Cantwell on this Committee.

BARC Growth Chambers Committee - Dr. M. M. Kulik, Seed Research Laboratory, AMRI, has been added to this Committee.

Cooperative Activities

Lima Bean Research - Dr. C. A. Thomas, Applied Plant Pathology Laboratory, PPI, and Dr. Vernon Fisher, University of Delaware, have released a bush, baby, greenseeded lima bean breeding line, B2C. The outstanding attributes of the line are its resistance to all four of the known races of downy mildew, and its superior green color.

Savings in Ocean Freight Costs - Florida grapefruit exporters save \$1.00 per box, or about 35 percent, on shipments to European markets. This is one of the most recent results of interregional research led by the Transportation and Packaging Research Laboratory, AMRI. Total savings on a 40-foot long van container shipment amount to at least \$980.00, but can go as high as \$1,200.00 per shipment when the lightly insulated or dry-freight van containers are loaded to capacity. Savings are derived from using less expensive containers of this type which are modified to allow the use of outside air at sea to cool the fruit instead of shipping it in heavier, less roomy, and more expensive refrigerated van containers. United States Lines, the major ocean carrier cooperating in this research, will purchase 100 new, lightly-insulated van containers built to ARS-recommended specifications. Since the cooling method uses a thermostatically controlled system of drawing outside air through the cargo in place of mechanically produced refrigeration, its use also will result in a substantial savings in energy and make it possible for container-ships with limited electric generating capacity to carry more van-container loads of perishables. This research was done cooperatively with the Orlando, Florida, U.S. Horticultural Research Laboratory; the European Marketing Research Laboratory in Rotterdam, Netherlands; United States Lines; Seald-Sweet Sales, Inc.; and Container Transport International (CTI), a van-container lessor. BARC scientists working on this project include P. L. Breakiron, W. A. Bailey, and W. G. Kindya, Transportation & Packaging Research Laboratory, AMRI.

Employees Activities

Invited Presentations - Two entomologists of the Systematic Entomology Laboratory, IIBIII, Dr. F. Christian Thompson and Mr. George Foster, have been invited to present seminars during the Spring Seminar Series of the University of Maryland's Department of Entomology. On April 14, Dr. Thompson will speak on "Systematics, the Neotropics, and Syrphid Flies," and on April 7 Mr. Foster will address the subject "The Dipterous Family Tethinidae in North America: A Practical Application of Hennigian Methodology."

Public Relations - A team from CBC-TV, Canada, filmed footage at BARC on January 29, 1976. Projects were selected by Ms. Brogan, CBC-TV, after a previous visit earlier in the month for orientation. Dr. Tyrrell, Mr. Brocht, and Mr. Sweeney, Ruminant Nutrition Laboratory, NI, assisted them during filming of the facilities at the Energy Metabolism Unit and of fistulated animals. Cows were photographed at the loose housing area. Dr. Arisumi, Mr. Tuttle, and Mr. McKenzie, Ornamentals Laboratory, PGGI, were included in scenes taken of impatiens, orchid and poinsettia plants in Range 2 greenhouses. Dr. Goth, Vegetables Laboratory, PGGI, was able to use a display set up for a USSR team visiting the same day to demonstrate his research.

Honor and Awards

Fellow - Curtis W. Sabrosky, Systematic Entomology Laboratory, IIBIII, has been elected a Fellow of the Entomological Society of Canada, as one of three Americans in the first group of Fellows to be selected by the Society. According to a letter from the President of the Society, "The honour bestowed is in recognition of your contributions and your dedication to the Entomological Society of Canada and to Entomology itself."

Toastmasters Club - Dr. Gideon W. Schaeffer, Cell Culture and Nitrogen Fixation Laboratory, PPI, has been named Toastmaster of the Year by the Plant Industry Toastmasters Club 2628. Dr. Schaeffer, who joined the club in 1973, was honored for outstanding achievement in prepared speeches, table topics (impromptu speeches) and evaluations of other speakers.

American Oil Chemists' Society - Dr. Joel Bitman, Mr. T. R. Wrenn, Mrs. J. R. Weyant, and Mr. D. L. Wood, Nutrient Utilization Laboratory, APGI, are being honored with a Certificate for the quality of their jointly authored paper, "Lipid Composition of Tissues and Milk after Two Years of Feeding Cows Protected Unsaturated Fats."

Visitors

Canada - Dr. Alex Smetana and Dr. Carl Yoshimoto, Biosystematics Research Institute, Agriculture Canada, Ottawa, visited the Systematic Entomology Laboratory, IIBIII, during the month of December. Both were examining type specimens and the general collection in connection with their studies of Staphylinidae (rove beetles) and Chalcidoidea (parasitic wasps) respectively.

Florida - Dr. Eric Grissell, Florida Department of Agriculture, Gainesville, visited the Systematic Entomology Laboratory, IIBIII, during December and January to study types and the general collection of Chalcidoidea (parasitic wasps) and to confer with Dr. Gordon Gordh of SEL regarding problems in the identification of these wasps.

Mississippi - Mr. George Vogt of the USDA's Southern Regional Weed Science Laboratory in Stoneville, Mississippi, visited the Systematic Entomology Laboratory, IIBIII, during December. Discussions were held with staff members of the Coleoptera Research Group concerning several beetle species being considered for biological control of undesirable plants.

Japan - Dr. Tetsuya Ohtaki, Department of Entomology, National Institute of Health, Tokyo, was a recent visitor at the Insect Physiology Laboratory, PPI. He and the Laboratory staff discussed their recent research on the molting and juvenile hormones of insects.

USSR - Dr. Heimpel, Chief, Insect Pathology Laboratory, PPI, hosted visiting team from USSR at BARC on January 29 and 30, 1976. The delegation was hosted by the American Society for Microbiology, and were accompanied by Janet L. Shoemaker, from the Public Affairs Office of the Society. The delegation members were: O. Alioshina, Director, All-Union Research Institute of Microbiology Means of Plant Protection and Bacteriology; E. G. Afrikyan, Director, Institute of Microbiology, Armenian Academy of Science; A. A. Skladnev, Chief of Technological Administration of Microbiological Industry of USSR Council of Ministers, Central Administration; B. P. Kurenkov, Deputy Chief of Foreign Relations Department, Central Microbiological Institute; A. I. Smetnik, Chief of Central Administration of Plant Protection USSR Ministry of Agriculture; and V. G. Zhdanov, Deputy Director, All-Union Research Institute of Genetics and Industrial Organisms. After a briefing session with Dr. Hanson, Dr. Moseman, Chairman, PGGI, discussed cereal diseases with the visitors. In addition to visiting the Insect Pathology Laboratory, the group visited staff of Soilborne Diseases, Nematology, and Applied Plant Pathology Laboratories in PPI, and scientists in the Vegetable Laboratory, PGGI.

Biographical Sketch

James L. Hilton, Chief, Pesticide Action Laboratory, AEQI, was born in Bristol, Virginia-Tennessee. He received his B.S. in Botany from Duke University in 1952; his M.S. and Ph.D. with a major in Plant Physiology and a minor in Biochemistry from Iowa State University in 1954 and 1955, respectively.

Dr. Hilton joined ARS as a Plant Physiologist at Raleigh, North Carolina, in 1956 and transferred to Beltsville later that year. Concurrent with the reorganization, he became Chief of the Pesticide Action Laboratory, AEQI.

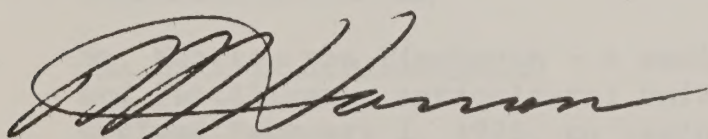
His personal research has involved determining biochemical sites of herbicide action with emphasis on establishing the principles underlying mechanisms of phytotoxic and selective action. He discovered competitive inhibitions of the pantothenate synthesizing enzyme as one contributing factor in the growth-controlling action of chlorinated aliphatic acid herbicides. He discovered the inhibition of histidine biosynthesis by the herbicide amitrole, acting as a competitive inhibitor of the seventh enzyme in the ten-step histidine biosynthetic pathway, and established this action as the only known example of selection action of a herbicide dependent on differences in organisms for enzyme derepression. He demonstrated that amitrole is a multiple action herbicide for which the most sensitive site of action differs among different classes of organisms. He discovered that a new group of herbicides, the substituted uracils, inhibited the Hill reaction and photosynthesis. He led a team which discovered the double mechanism of action of trifluoromethyl phenyl pyridazinone herbicides and defined the structural characteristics required for inhibition of the Hill reaction of photosynthesis by which the herbicides control established plants, and of those required for interference with chloroplast development by which certain of the compounds control emerging seedlings.

Dr. Hilton discovered the lipid-herbicide interactions in which applications of certain plant lipids prevented some of the biochemical actions of a new pyridazinone herbicide which also inhibits galactolipid biosynthesis in the developing chloroplast. He hypothesized that the selective action of trifluralin is dependent in part upon the amount of storage lipids available in germinating seeds to trap trifluralin and keep it from its site of action for which he and his coauthor received the outstanding publication award of 1972 from the Weed Science Society of America.

His discovery that substituted benzoic acids inhibit the second step of the three-step pantothenic acid biosynthetic pathway incidently established the site of action of salicylic acid (first step) which is the class inhibitor of the pathway. He participated in the discovery of the mechanism of action of triazine herbicides and in early confirmation of the action of phenylurea herbicides both of which inhibit the Hill reaction and photosynthesis.

Since Dr. Hilton's appointment as Laboratory Chief, cooperative research accomplishments include the discovery that the mitotic inhibitors trifluralin, oryzalin, and pronamide inhibit microtubule development but do so at an earlier biochemical step than inhibition by colchicine; the discovery that the new herbicide perfluidone for nutsedge control inhibits the enzymatic synthesis of lipids whereas dinoseb possesses this action plus a direct action disrupting membrane permeability; the discovery that karbutilate, which structurally is both a phenylurea and alkylcarbamate herbicide, is a more potent, more persistent, and more specific inhibitor of photosynthesis than its phenylurea derivative but does not exhibit the potential growth inhibiting actions expressed by its alkylcarbamate derivative; and the correlated phytotoxicity of surfactants with their effect on cell membrane permeability and function.

Dr. Hilton is a member of Phi Beta Kappa, Sigma Xi, and several professional societies. He has served on numerous committees and boards of the societies and is currently associate editor of the Weed Science Society of America. He received a Certificate of Merit from USDA in 1959 and the Washington Academy of Science for outstanding contributions in biology in 1966.



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NOTES FROM THE DIRECTOR

No. 74

February 23, 1976

Laboratory Program Reviews - Since October 31, we have completed reviews of 23 Laboratories. We have 39 more Laboratories and Units remaining to be reviewed. We are scheduled to complete these reviews by June 16. A great deal of time will be devoted to these reviews by BARC Scientists, NER, NPS, and PACS. Their active participation is certainly appreciated and highly worthwhile.

New Laboratory Chief - Dr. D. K. Hayes has been appointed Chief, Chemical and Biophysical Control Laboratory, AEQI. She fills the vacancy created by the retirement of M. S. Schechter.

Changes in BARC Committees

BARC Forage Research Committee - Dr. R. M. Faust, Insect Pathology Laboratory, PPI, has replaced Dr. A. M. Heimpel on this Committee.

BARC Office Management Committee - Based upon the recommendation of this Committee, it has been terminated. The BARC Administrative Office and/or the Director's Secretary will call meetings of the Institute Secretaries as the need arises.

National Research Programs - ARS is preparing 67 new NRP's. Drafts are to be prepared by the end of February. A shake-down period will exist from March to June.

Visiting Scientists

Mr. Maarten van Tienhoven - A senior student in the Department of Soils and Fertilizers, Agricultural University, Wageningen, The Netherlands, arrived February 1, 1976, to begin a 6-month training period in the Biological Waste Management and Soil Nitrogen Laboratory, AEQI. Mr. van Tienhoven will be working under the supervision of Dr. R. L. Chaney on studies involving the uptake of heavy metals by different crops from soil amended with sewage sludge and sludge compost.

Mr. Ronald S. Yokim - Department of Natural Resources, Rhinelander, Wisconsin, will be working with Dr. Allan Isensee, Pesticide Degradation Laboratory, AEQI, on ecosystem development under an EPA Grant.

Mr. S. Clark Haynes - University of West Virginia, Morgantown, W. Va., will be working with Dr. Donald Kaufman, Pesticide Degradation Laboratory, AEQI, on benchmark chemistry under a Grant from EPA.

2-Notes from the Director

Mr. John Macchia - Rhodia Inc., Somerset, New Jersey, will be working with Dr. Philip Kearney, Chief, Pesticide Degradation Laboratory, AEQI, on a short-term metabolism project.

Employee Activities

Retirees - BARC Plant Pathologists at their twice monthly noon discussion group meeting were honored on December 18, 1975 by the presence of several retired Plant Pathologists. The retirees discussed the history of Plant Pathology at Beltsville and in the Washington, D. C. area during the "early days." Among the retired Plant Pathologists attending were: George Coon, Charles Dreschler, Curtis May, H. H. McKinney, Paul Miller, Dewey Stewart, Ed Stokes and William Zaumeyer.

Guest Lecturers for Delaware State College - In response to a request two BARC scientists are speaking to students in Plant Pathology at Delaware State College. Dr. J. H. Bennett, Plant Stress Laboratory, PPHI, will speak on March 2 and Dr. A. M. Golden, Nematology Laboratory, PPI, will speak on March 9.

What's in a Name? - Would a "U.S. Department of Food, Agriculture, and Rural Affairs" be more effective than the present Department of Agriculture? Senators George McGovern (D-SD) and Hubert Humphrey (D-MN) seem to think so. On January 23 Senator McGovern introduced for himself and Senator H. Humphrey S. 2867, a bill which would rename the Department of Agriculture the "Department of Food, Agriculture, and Rural Affairs." From CSRS Letter No. 1339.

Honors and Awards

Washington Academy of Sciences - Richard H. Foote, Chief, Systematic Entomology Laboratory, has been officially elected as President-Elect of the Washington Academy of Sciences. He will assume the duties of President in the spring of 1977. Dr. Foote has served as Treasurer during the current year.

Cash Award - Ruth Ann Spalding, Transportation and Packaging Research Laboratory, AMRI, for performance exceeding the normal requirements of her job responsibility.

Deputy Under Secretary of Agriculture - On Jan. 22 Paul A. Theis, who had been White House Executive Editor since August 23, 1974, was named Deputy Under Secretary of Agriculture for Congressional and Public Affairs. In his new position, Mr. Theis will direct the recently combined activities of the USDA's congressional liaison and public affairs offices.

3-Notes from the Director

Congressional Request for Constituent Tour - Mr. Ken Fredgren, from Congressman Berkley Bedell's Office (Iowa) called to arrange a tour for approximately 30 to 40 farmers and wives from N.W. Iowa on Saturday, March 13, 1976. He indicated the group would be interested in research with beef cattle and grain.

Visitors

Nebraska - Professor Carl A. Leopold, Dean of the Graduate College at the University of Nebraska, Lincoln, spent a day at the Seed Research Laboratory, AMRI, exchanging ideas with SRL's seed scientists and learning about their seed research program on soybean and other major agronomic and horticultural crops.

Biographical Sketch

Tien C. Tso, Chief, Tobacco Laboratory, PGGI, was born in China. He received his B.S. in Agronomy with a minor in Agricultural Chemistry from the University of Nanking, China, in 1941 and his M.S. from the same University in 1944. He received his Ph.D. from Pennsylvania State University in 1950.

Following the completion of his master's degree, he became Superintendent, Experimental Farm, Chungking, China, training war refugees in agricultural production. In 1946 he became Executive Secretary in Charge of Research Tobacco Improvement Bureau in Nanking. After completing his Doctorate, he was employed as a Research Chemist at the General Cigar Research Laboratory in Lancaster, Pennsylvania. In 1952 he was a Research Scholar Grantee at Beltsville sponsored by the Department of State. The following year Dr. Tso joined the staff of the Department of Agronomy, University of Maryland, as a collaborator for Tobacco Research with ARS, USDA, until 1959 when he joined ARS as a Plant Physiologist at Beltsville. He became Investigations Leader for Tobacco Quality in 1966. Concurrent with the reorganization in 1972, he was appointed Chief, Tobacco Laboratory, PGGI.

Dr. Tso has actively participated in the USDA Tobacco Research program since 1952. His contributions to scientific knowledge of tobacco biochemistry, physiology, quality, and smoking and health have distinguished him as one of the leading authorities in tobacco science. The early phases of his research concerned biochemistry of alkaloids, mineral nutrition, physiological disorders, organic metabolism, and chemical feedback phenomena in tobacco plants. He isolated 24 alkaloidal compounds in cured tobacco leaf and elucidated their biosynthetic pathways, sites of formation, and metabolic roles employing triple labeling with ^{14}C , ^3H , and ^{15}N , which had never been attempted previously. He established the effects of mineral deficiency on organic composition of leaf tobacco and determined the role of polyphenolic compounds, scopoletin and scopolin, in plant tumor formation in Nicotiana hybrids. His pioneering research on fatty compounds as growth regulators is considered a major breakthrough in plant science.

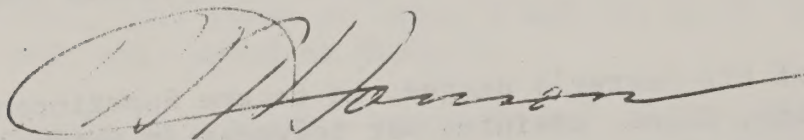
4-Notes from the Director

More recently, Dr. Tso's research is centered in the development of safer tobacco. This included the problems of Po-210, nitrosamines, precursor-product relationship among leaf characteristics, smoke composition, and biological activity; establishing a theoretical model for tobacco based on selected markers and developing the homogenized leaf curing process.

He received a USDA Superior Service Award in 1968 and the Cigar Manufacturers Association Award for Distinguished Scientific Research in 1971. Based on his research effort, Dr. Tso has obtained six U.S. Patents, over 100 scientific publications, and is author, editor, and contributor of six books.

Special Notice

Safety Film - BARC employees are urged to attend one of the two presentations of the Safety Film titled Laboratory Safety to be shown in the Auditorium, Building 003, at 2 and 3 p.m. on March 25. This is an excellent film on Laboratory Safety.



A. A. Hanson, Director
Beltsville Agricultural Research Center

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
NORTHEASTERN REGION
AGRICULTURAL RESEARCH CENTER
BELTSVILLE, MARYLAND 20705

NOTES FROM THE DIRECTOR

No. 75

April 7, 1976

The Value of BARC: Basic research conducted at BARC has national significance, which in some instances results in rapid follow-up for practical implications. A recent example is the project to eliminate persistent weed seeds from croplands by controlling seed germination and dormancy. Weed seeds may persist in cropland for many years, thereby providing a major source of annual reinfestation which could be eliminated by germination of the entire population and subsequent control treatments. In January 1975, two BARC scientists concerned with basic aspects of weed seed dormancy published an explanation of nitrate stimulation of seed germination. Conversion of nitrate to an inhibitor of catalase resulted in altered metabolic processes controlling germination. Numerous other inhibitors of catalase including azide were also reported. Weed scientists at BARC recollected previous instances of severe weed infestations following field application of azide. In April 1975, BARC hosted a small work planning conference for ARS scientists concerned with weed seed infestation of agricultural soils. The use of stimulants to achieve simultaneous germination was a major item of discussion and azide was selected as a compound for initial field experiments. The first field tests were immediately incorporated into an existing ARS grant with North Dakota State University concerning methods to control wild oats, a problem weed which caused a \$1.5 billion loss in North Central States and Canadian wheat crops in 1974. At the February 1976 national meeting of the Weed Science Society of America (WSSA), Dr. P. K. Fay of North Dakota State University reported azide stimulation on emergence of both wild oats and wheat after azide treatments of wheat fields. The BARC meeting also resulted in the organizing of a highly successful weed seed colloquium held at the WSSA national meeting with participation from Federal, university, and industrial scientists. The colloquium revealed that several chemical companies recently began screening for weed seed germination stimulants. An analysis of the state-of-the-art by more than a dozen participants reviewing the limited number of past contributions revealed that there is now renewed interest and hopes for payoff among weed scientists, that additional researchers are getting involved, and that the best work and leadership to date has come almost entirely from within ARS.

EEO Activities

For your information, listed below are the names, rooms, and telephone numbers of the BARC EEO Committee:

Mr. Herbert Johnson, Bldg., 224, BARC-East, ext. 42062
Ms. Patricia McCawley, Room 229, Bldg. 011A, BARC-West, ext. 43689
Dr. Amber L.S. Cheng, Room 307, Bldg. 001, BARC-West, ext. 43872
Ms. Eleanor C. Moore, Bldg. 104, BARC-East, ext. 42406

Ms. Nancy Enkiri, Room 101, Bldg. 007, BARC-West, ext. 43052
 Ms. Linda S. Randall, Bldg. 263, BARC-East, ext. 42334
 Mr. Charlie Jackson, Room 107, Bldg. 200, BARC-East, ext. 42284
 Ms. Joyce Shaffer, Room 103, Bldg. 002, BARC-West, ext. 43650
 Mr. Melvin Jackson, Room 45, Bldg. 427, BARC-East, ext. 43562
 Mr. Merrill Timmins, Bldg. 228, BARC-East, ext. 42121
 Ms. Maxine Lutz, Room 206, Bldg. 001, BARC-West, ext. 42385 43143
 Mr. Robert L. Smiley, Room 2, Bldg. 004, BARC-West, ext. 43891
 Ms. Emily S. Conway, Room 303, Bldg. 307, BARC-East, ext. 42146

New Employees - Dr. Robert S. Rew, Research Zoologist, joined the staff of Ruminant Helminthic Diseases Laboratory, API, on February 23, 1976. Dr. Rew will be a member of the chemotherapy research program, concentrating on elucidating mode of action of anthelmintics and mechanisms of helminth resistance to drugs. Dr. Rew has a Research Associate at Notre Dame University for the past three years.

New Administrative Officer - Mrs. Evelyn H. Hobbs has been appointed Administrative Officer for the Beltsville Agricultural Research Center. She fills the vacancy created by the retirement of Barney Byrne. Prior to reorganization, Mrs. Hobbs was the Administrative Officer for the Animal Science Research Division. At the time of reorganization, she was assigned to the Northeastern Regional Administrative Office, Budget and Fiscal Branch.

Energy - Agriculture in America uses only a small percentage of the nation's total energy--a mere 2.3 percent. And of this percentage, almost one-third goes into fertilizer. -- Southeast Farm Press, March 17, 1976.

FY-78 Budget Increase Proposals - A total of 406 proposals were generated within the Northeastern Region. These proposals are being scored by the Area and Center Directors and returned to the Deputy's office for a regional ranking.

Insect Taxonomist Awarded NAS Grant for Study in Russia - Dr. Gordon Gordh, Systematic Entomology Laboratory, IIBIII, has received a National Academy of Sciences grant to study Chalcidoidea with Dr. V. A. Tryapitzin, of the Zoological Institute, Leningrad. Dr. Gordh will be in Leningrad for six months beginning in January 1977.

Laboratory and Unit Program Reviews Over the Half-Way Mark! Since October 31 we have completed 38 reviews. We have 24 more reviews to be completed by June 16. Participation by the scientists, NER, NPS, and PACS has been excellent.

BARC Participants on 1977 Yearbook Committee - ARS Administrator, Mr. T. W. Edminster has approved the nomination of three BARC scientists to serve on this USDA Committee. They are Allan Stoner, Vegetable Laboratory, PGGI; Tom Barksdale, Vegetable Laboratory, PGGI, and William Bailey, Transportation and Packaging Research Laboratory, AMRI. The theme for the 1977 Yearbook is fruit and vegetable gardening for the homeowner.

Pesticides for Use on Minor Crops - Three of the 17 projects funded nationwide in ARS for FY 1976 and the interim quarter to help develop data in support of registration of pesticides for uses on minor crops have been assigned to scientists in the Plant Protection Institute at BARC. Peter B. Adams, Insect Pathology Laboratory, is responsible for benomyl use on lettuce and onions to control soilborne fungal diseases; Julius Feldmesser, Nematology Laboratory, is responsible for ethoprop use to control nematodes on a number of vegetable crops; and Arthur M. Heimpel, Chief, Insect Pathology Laboratory, is responsible for evaluating Bacillus popilliae on insects in pastures. Support of pesticide research on minor crops by ARS and IR-4 is designed to help attain EPA regulations that are considered too costly to be conducted by the chemical industry.

Committee Membership

BARC EEO Committee - Emily Conway, Nutrient Composition Laboratory, NI, has replaced Mary Marshall, Lipid Nutrition Laboratory, NI, on this committee.

BARC Animal Care Committee for API - H. Herlich, Chief, Ruminant Helminthic Diseases Laboratory, and F. G. Tromba, Chief, Non-Ruminant Helminthic Diseases Laboratory, have been appointed as additions to this committee.

BARC Committee for Honoring Eminent Scientists- Lind L. Sanford, Vegetable Laboratory, PGGI, has been appointed as an additional member on this committee. F. G. Tromba, Chief, Non-Ruminant Helminthic Diseases Laboratory, will replace J. S. Andrews on this Committee.

BARC Forage Research Committee - L. W. Smith, Chief, Feed Energy Conservation Laboratory, APGI, has been added to this committee.

Employee Activities

Gift to Secretary of State Found to be Bugged - Mr. T. J. Spilman, Systematic Entomology Laboratory, IIBIII, recently identified a beetle Lyctus africanus taken from a carved wooden Egyptian statue. The statue had been presented to Secretary of State Henry Kissinger by Mrs. Anwar Sadat, wife of the President of Egypt. Called a powderpost beetle, this insect is capable of reducing wood to powder if not controlled. Although it does not occur in North America, it is frequently intercepted at ports of entry.

NCR-101 - Dr. Donald T. Krizek, Plant Stress Laboratory, PPHI, has been appointed ARS Representative to the newly established North Central Region Committee on Growth Chamber Use (NCR-101). The first meeting of this Committee was held at Purdue University on February 10 and 11, 1976, at which time he presented a report on "Growth Chamber Use in the Agricultural Research Service."

Invitational Seminar - Dr. Charles D. Foy, Plant Stress Laboratory, PPHI, recently conducted an invitational seminar entitled "Differential Adaptation of Plant Genotypes to Mineral Stress (toxicity or deficiency) in Problem Soils," at the MSU/ERDA Plant Research Laboratory, University of Michigan, East Lansing, Michigan.

Plant Exploration in Europe and Africa - Dr. Robert E. Perdue, Jr., Chief, Medicinal Plant Resources Laboratory, PGGI, left Beltsville on February 17 for Europe and Africa. Principal objective of this trip is to survey an area of Kenya to assess the availability of Maytenus buchananii. The survey will be focused on the Shimba Hills of Southeastern Kenya where the plant appears most abundant and is known to the Digo tribesmen who inhabit the area as MUD-ZI-AD-ZY-AH. The plant is the source of "maytansine," a very potent anticancer agent now under clinical evaluation at the National Cancer Institute.

Plant Exploration in Columbia, South America - Dr. Arthur S. Barclay, Botanist, Medicinal Plant Resources Laboratory, PGGI, left Beltsville on February 2 for three months of field work in Colombia, South America. His objective is to assemble 100-pound lots of 40 plants, extracts of which have been significantly active against cancer in laboratory animals. Extracts of seven Colombian plants are very potent inhibitors of leukemias in laboratory tests.

BARC-University of California Cooperation - The Cell Culture and Nitrogen Fixation Laboratory, PPHI, is cooperating with the Plant Growth Laboratory, University of California, Davis, on research on symbiotic nitrogen fixation. Drs. F. O'Gara and K. T. Shanmugan in R. C. Valentine's group at the University of California have confirmed in a paper accepted for publication that free-living cultures of Rhizobium, soybean symbiont, can be induced to fixed N₂.

Congressional Testimony - On March 1, 1976, Dr. Donald T. Krizek, Plant Stress Laboratory, PPHI, USDA, Representative to the White House Task Force on Inadvertent Modification of the Stratosphere (IMOS), Chairman, IMOS Subcommittee on Biological and Climatic Effects Research, and Chairman, USDA Working Group on Ozone Depletion in the Stratosphere, testified before the Subcommittee on the Upper Atmosphere, Senate Committee on Aeronautical and Space Sciences, chaired by Senator Dale Bumpers of Arkansas. The subject of his testimony was the influence of increased ultra-violet radiation on agricultural plants that might result from possible reduction in the ozone level of the stratosphere.

Guest Lecturer for Delaware State College - Robert L. Smiley, Systematic Entomology Laboratory, IIBIII, delivered an invited seminar on February 17 to faculty and graduate students of the Agricultural and Natural Resources Science course at Delaware State College. His topic was "The Agricultural and Medical Importance of Some Mites of the Superfamily Tarsonemoidea."

Insects Determined for Florida Department of Agriculture - Dr. Paul M. Marsh, Systematic Entomology Laboratory, IIBIII, was recently invited by the Florida Department of Agriculture to spend a week in Gainesville identifying a portion of the parasitic wasps in the Florida State Collection of Arthropods. Dr. Marsh identified more than 3,400 specimens of Braconidae and brought back several hundred specimens to serve as study material for his research in Washington.

NPS - Warren C. Shaw was appointed Staff Scientist, Weed Science, on the Plant and Entomological Sciences Staff, National Program Staff, of USDA's Agricultural Research Service. Dr. Shaw replaces William B. Ennis, Jr., who served in this position from July 1972 to July 1975, when he retired.

Honors and Awards

Toastmasters Club - Dr. Paul H. Terry, Insect Chemosterilants Laboratory, AEQI, has been named Toastmaster of the Year by the BARC Toastmasters Club 3039.

Cash Awards

Wiley J. Alston and James A. Grear - Farm Management Branch, Division of Operations, for outstanding performance of assigned duties in performing farming activities in support of the research program, which resulted in increased productivity and efficiency of the farming operations at BARC.

Pamela F. Lloyd, Reproduction Laboratory, APGI, for suggestion for change to be made in present telephone system located in the Conference Room of the Electron Microscope Building, BARC-East. Old system had telephone removed and users using the phone in the Reproduction Laboratory offices; new system will install jack with an in-house use only.

Robert L. Yates, Kenneth D. Patrick, Jr., and Walter P. Wooster, Division of Operations, for energy conservation, reduction in the purchase of electricity and heating oil at the National Agricultural Library.

Quality Within-Grade

James M. Moseley, Plant Virology Laboratory, PPI.

Society Award

Dr. James L. Hilton, Chief, Pesticide Action Laboratory, AEQI, has been selected for the Outstanding Research Award for 1975 by the Weed Science Society of America.

Safety

FALLS RANK NUMBER TWO IN ACCIDENTS - According to the National Safety Council, falls rank No. 2 for causes of accidental deaths, preceded only by traffic accidents. Fifty-six percent or nearly 10,000 deaths resulting from falls occur at home. Here are a few guidelines that won't trip you up:

1. Don't store things on stairs; practice "a place for everything and everything in its place."
2. Provide a safety fence at the top of stairs for tots.
3. Keep stairs in good repair.
4. Provide adequate lighting.
5. Keep outside steps and walks clear of snow and ice.
6. Use sound ladders properly and don't over-reach.
7. Watch where you are going.

Visitors

USSR - Dr. Ricker, Chairman, AMRI, hosted a visiting team from USSR on February 26, 1976. Here to examine the economic relationships of firms producing, processing and marketing meat products and livestock were Mr. B. V. Feodorov, General Director

of the Leningrad Meat Industry Association, and Mr. V. N. Yamchinsky, Deputy Chief, Zhitomirsky Oblast Administration of Agriculture. After a briefing with Dr. Putnam, the team visited with Dr. Kotula, Dr. Ono, and Dr. Cross of the Meat Science Research Lab. Following lunch and a meeting with Dr. Roger Gerrits, NPS, the team heard discussions on livestock and meat marketing research with Dr. Webb and Mr. Smalley of the Animal Products Marketing Lab, and Mr. Goulston and Mr. Anthony of the Market Operations Lab. Dr. Oltjen, Chief, Ruminant Nutrition Laboratory, NI, and Dr. Frobish, Chief, Non-Ruminant Animal Nutrition Laboratory, NI, discussed animal nutrition with the team.

AUSTRALIA - Mr. Lockie Rule of the Queensland Agricultural College, visited AMRI to discuss current research developments in the retailing and marketing of fruits and vegetables. He conferred with Dr. Ricker, AMRI, and visited with Dr. Hardenburg, Chief, Horticultural Crops Marketing Laboratory, Mr. Breakiron, Chief, Transportation and Packaging Research Laboratory, Mr. Bouma, Chief, Market Operations Research Laboratory, and members of the Food Distribution Research Laboratory.

ENGLAND - Dr. S. D. van Hoogstraten, Agrochemical Division, Fisons Ltd., visited BARC January 29, 1976. He discussed plant growth regulator research with Dr. G. L. Steffens, Chief, Plant Hormone and Regulators Laboratory, PGGI; Dr. R. H. Lieberman, Chief, Post Harvest Plant Physiology Laboratory, AMRI; and Dr. C. Sloger, Cell Culture and Nitrogen Fixation Laboratory, PPHI.

FRANCE - Mr. Constant, General Manager of the Educational Research Department of the French Ministry of Agriculture and five members of the staff of the French Ministry of Agriculture, together with two members of the Societe Commerciale des Potasses et de l'Azote were welcomed by Dr. Weir. The visit by the French guests included discussions with Dr. Stanford, Biological Waste Management and Soil Nitrogen Laboratory, AEQI, and Drs. Devine, Sloger, and Weber, Cell Culture and Nitrogen Fixation Laboratory, PPHI, about nitrogen fixation and utilization. This was followed by a brief general tour of BARC. Arrangements for the tour were made by Dr. W. K. Griffith, Potash Institute, who accompanied them to Beltsville.

CZECHOSLAVAKIA - Professor F. Garaj of the Technical University in Bratislava, Czechoslovakia, visited Dr. Borkovec, Chief, Insect Chemosterilants Laboratory, AEQI, and discussed with him new chemical approaches to pest control.

SWEDEN - Dr. Suen-Uno Skarp, Technical Director of the Swedish Institute of Agricultural Engineering, Uppsala, Sweden, visited Dr. Louis A. Liljedahl, Chief, Agricultural Equipment Laboratory, PPHI, on February 6. Dr. Skarp was interested in current work and proposed plans for wind power research by ARS.

SCIENCE ADVISOR - On February 17, 1976, Dr. Lloyd Jones, Assistant to the President's Science Advisor, visited with Dr. Harry Herlich, Chief, Ruminant Helminthic Diseases Laboratory, Animal Parasitology Institute, for a brief orientation of the API research programs.

P. A. Putnam

P. A. Putnam, Acting Director
Beltsville Agricultural Research Center

UNITED STATES DEPARTMENT OF AGRICULTURE
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NORTHEASTERN REGION
AGRICULTURAL RESEARCH CENTER
BELTSVILLE, MARYLAND 20705

NOTES FROM THE DIRECTOR

No. 76

April 23, 1976

Miscellaneous Interesting Facts for the Erudite Agriculturalist--DID YOU KNOW THAT.... George Washington was the Nation's first mule breeder, using a jack and jennets sent him by the King of Spain as his basic, experimental stock.--"USDA", December 10, 1975.

Notice--The Northeast Sectional Meetings of the American Society of Animal Science and American Dairy Science Association will be held in Beltsville, July 11-13, 1976. Animal scientists from all States north and east of Maryland as well as from other parts of the U.S. and foreign countries are expected to attend. It is anticipated that 200 to 250 registered participants will be present. The meetings will be held in the National Agricultural Library with two to three technical sessions being held simultaneously Monday and Tuesday mornings. On Monday afternoon a symposium entitled "Turning Rumen Fermentation On and Off to Maximize Animal Productivity" is scheduled. The invited speakers for this symposium are Dr. R. Hungate, University of California; Dr. W. Chalupa, University of Maryland; and Dr. R. Ørskov, Rowett Research Institute, Aberdeen, Scotland. Those who are not members of either society are welcome to register and attend the meetings. Other details on the meetings may be obtained by contacting Dr. Robert Oltjen, Ruminant Nutrition Laboratory, NI, 344-2283.

Notice--The facilities and staff of the Instrument Design and Machine Shop, located in the basement of Building 007, Room 32, BARC-West, are available to personnel at the Research Center. The shop offers the following services: (1) The design and construction of laboratory and research apparatus for specialized work where commercial units are not available. (2) Modification of existing apparatus to perform new or improved functions. (3) Minor repairs and the manufacture of parts where these are no longer commercially available, including trouble-shooting and minor repair of general electronic apparatus. (4) General machine shop work requiring the use of lathes, milling machines, work with ferrous and non-ferrous metals and alloys, plastics, rubber, wood and other machinable materials. There are no charges for work performed by the shop but material and supplies must be furnished, replaced or substituted (if in stock) with an item of comparable value by the person submitting the work request. Work requests with specifications are to be submitted to the supervisor of the shop.

Notice--Beltsville Symposium on Virology in Agriculture, May 10-12, 1976. Registration will be required by all attendees for the Symposium Mixer and Banquet. If you need registration forms, phone the Plant Virology Laboratory, ext. 43684. There is no registration fee for employees of BARC.

New Employees

Dr. Chien-yi Wang, Research Horticulturist, joined the staff of the Horticultural Crops Marketing Laboratory, AMRI, on March 29. Dr. Wang is a native of the Republic of China and graduated from National Taiwan University. He received his Ph.D. from Oregon State University in 1969. He comes to us from the Mid-Columbia Experiment Station, Hood River, Oregon, where he has been a postdoctoral Research Associate for 6 years. He will work on applied and basic problems of quality maintenance of vegetables and ornamentals after harvest.

Dr. Iris A. Mastrangelo, Research Geneticist, joined the staff of the Tobacco Laboratory, PGGI, on March 15, 1976. She will be a member of the tobacco research program, concentrating on genetic variants of tobacco in cultured cells. Dr. Mastrangelo comes to us from Brookhaven National Laboratory, Upton, New York, and Manhattanville College, Purchase, New York. At BNL she was part of a group that fused human tumor cells (HeLA) and tobacco tumor cells (hybrid of N. glauca x N. langsdorffii).

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Last year, 123,900 acres of farmland changed hands, and about 85 percent of this land is expected to remain in agriculture for at least 5 years.--Southeast Farm Press, March 3, 1976.

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Employee Activities

Dr. Kent H. McKnight, Mycology Laboratory, PPI, recently returned from Europe where he was on study leave for over six months under the auspices of the U.S. National Academy of Sciences Scientific Exchange Program. Most of his time was spent at the National Museum in Prague and at the Botanical Institute at Pruhonica, Czechoslovakia. He also visited with many scientists actively engaged in mycological research at Bruno, Bratislava and Ostrava. He collected and studied mushrooms in Southwest Germany, Switzerland, Austria, Hungary, and Belgium. Dr. McKnight brought back over 1,000 properly prepared specimens of mushrooms for our National Fungus Collections at Beltsville and over 30 live cultures of potentially edible species isolated by him. Since many names of our fungi are based on European descriptions, the study in Central Europe is an urgent and long needed complement to Dr. McKnight's taxonomic and nomenclatural work on the fungi of the United States. Correct identification of American material is possible only when we thoroughly know the European species, including their growth habit under local ecological conditions.

Dr. Orville A. Levander, Vitamin and Mineral Nutrition Laboratory, NI, has been invited to present a talk entitled "Nutritional Factors in Resistance to Metal Toxicants" at the 60th Annual Meeting of the Federation of American Societies for Experimental Biology in Anaheim, California. His seminar will be part of a symposium devoted to effects of nutritional status on response to the environment and will detail numerous examples of metabolic interactions between various nutrients and heavy metals such as lead, cadmium, or mercury.

Delaware State College Guest Lectures--Eleven BARC employees participated as 1976 Guest Lecturers for the Agricultural and Natural Resources Science course

at Delaware State College, Dover, Delaware. Lecturers have included: G. J. King, Animal Improvement Programs Laboratory, APCI; R. K. Howell, Plant Stress Laboratory, PPHI; R. L. Smiley, Systematic Entomology Laboratory, IIBIII; A. L. Fleming, Plant Stress Laboratory, PPHI; J. M. Schalk, Vegetable Laboratory, PGGI; R. H. Lawson, Ornamentals Laboratory, PGGI; E. E. Finney, Instrumentation Laboratory, AMRI; F. W. Snyder, Light and Plant Growth Laboratory, PPHI; R. Fayer, Livestock Protozoan Diseases Laboratory, API; and V. G. Pursel, Reproduction Laboratory, APCI.

Dr. William W. Cantelo, Vegetable Laboratory, PGGI, presented a lecture on "Latest Developments in Insect Physical Control Techniques" to students at the University of Delaware. Many of the developments were the result of research by Beltsville scientists. Dr. Cantelo also participated in the oral examination of a candidate for a master's degree on whose thesis committee he served.

Jack Murray, Field Crops Laboratory, PGGI, prepared radio tapes on lawn care. His tapes covered fertilization, combination fertilizer and pesticide materials, lawn insects and diseases, and watering.

Dr. Paul H. Terry, Insect Chemosterilants Laboratory, AEQI, spoke on "Insecticides, and Alternate Methods of Pest Control" before a meeting of the Beltsville Rotary Club.

Dr. Roger Lawson, Ornamentals Laboratory, PGGI, was recently elected Vice-Chairman of the Board of Trustees of the American Type Culture Collection. The Board is composed of members representing the American societies of microbiology, protozoology, mycology, genetics, phytopathology and the tissue culture association. Dr. Lawson has represented the American Phytopathological Society on the Board for the past two years.

Dr. Charles D. Foy, Plant Stress Laboratory, PPHI, recently conducted an invitational seminar "Effect of Toxic Elements on Growth and Persistence of Forages" at the Agronomy Department of Pennsylvania State University, State College, Pennsylvania.

Identification of a large lot of beetles collected in a study of insects found in peanut warehouses was recently completed by J. M. Kingsolver, Systematic Entomology Laboratory, IIBIII. More than 17,000 specimens were included in the lot which had been sent by the Stored-Product Insects Laboratory of ARS at Savannah, Georgia.

Dr. Richard H. Foote, Chief, Systematic Entomology Laboratory, IIBIII, presented an invitational talk as part of a symposium entitled "Systematics and Systematic Collections - Prospective 2000" during the annual meeting of the North Central Branch, Entomological Society of America in Denver, Colorado, on March 25. In this presentation - "Museum Data - An Unmined Resource" - Dr. Foote predicted that data associated with museum specimens should become increasingly important in supporting research projects and pest control programs everywhere.

Dr. Paul L. Lentz, Chief, Mycology Laboratory, PPI, visited the J. C. Arthur Rust Herbarium and the Department of Plant Pathology at Purdue University. Dr. Lentz lectured to Dr. Joe Hennen's class in advanced mycology and presented an invitational J. S. Wright Lecture on The First Century of the National Fungus Collections. The mycological herbarium of the National Fungus Collections has been developed in USDA since 1869, and it is now the world's largest permanent collection of preserved fungus specimens. Names of some well-known scientists associated with development of the Collections include those of F. L. Scribner, B. T. Galloway, Flora W. Patterson, C. L. Shear, and J. A. Stevenson. The herbarium is especially strong in collections of plant pathogens, foreign fungi, polypores, rusts, and ascomycetes. Recently an agreement was reached with the Smithsonian Institution calling for maintenance of the 6,000 volume Stevenson Mycological Library as a permanent component of the National Fungus Collections.

Dr. G. C. Papavizas, Chief, Soilborne Diseases Laboratory, PPI, reviewed PL 480 (Food for Peace) projects in Egypt from February 10-18, 1976. He also visited the Bahteem and Sakha Agricultural Experiment Stations in the Nile Delta, the Faculty of Agriculture at Tanta University and the Department of Plant Pathology, University of Alexandria. He presented an invitational lecture entitled "Current Status of Biological and Integrated Control of Soilborne Plant Pathogens in the United States" at the Foreign Relations Department, Ministry of Agriculture, Giza. From February 19-26, he reviewed projects on Rhizobium, Endogone, Macrophomina, and Rhizoctonia in Pakistan. He presented the same lecture at the University of Islamabad, Karachi University, and Punjab Agricultural Research Institute. On the way back to the States, Dr. Papavizas visited the Cereals Institute and the Aristotelian University in Salonica, Greece, and the Superior School of Agriculture and the Benaki Institute of Phytopathology in Athens. He presented an invitational lecture entitled "Studies on Survival of Soilborne Plant Pathogens: Prelude to Integrated Control" at the Benaki Institute.

Cooperative Research

FDA and BARC--Dr. Richard Gorham of the Food and Drug Administration, 12 staff members of Systematic Entomology Laboratory, IIBIII, and several additional scientists are collaborating to produce an illustrated manual for the identification of important arthropod pests of the food industry. Dr. Gorham will edit the manual, and FDA is providing funds for the production of illustrations. The manual will be published as a USDA Agriculture Handbook in 1977. The manual will consist primarily of identification keys which are to be profusely illustrated to assist users. A separate section will provide habitus illustrations of nearly all of the 200 species of insects and mites to be included.

ERDA and BARC--Energy Research and Development Administration is funding construction of an experimental solar heating system for a milking parlor at BARC. When operation begins this spring at the 200-cow parlor, some 70 percent of the requirements for washing cows' udders before milking and washing equipment before and after each milking, and space heating will be supplied by the solar system. Costing about \$25,000, Beltsville's 1,000-square-foot collector will supply underground silos with 10,000 gallons of stored hot water. Costs would be lower if farmers handled own installation, according to USDA engineer Paul Thompson. "A typical dairy farm with 100 cows would need only 400 to 500 square feet of collectors at a cost of about \$4,500," he said.

Honors and Awards

Professional Societies

Marion E. Whitten, Seed Research Laboratory, AMRI, received the American Oil Chemists' Society Merit Award for showing marked leadership in special committee and society activities and generously giving outstanding and distinguished service to the Society.

Quality Within-Grade

Walter Sistrunk, Jr., Applied Plant Pathology Laboratory, PPI.

Margaret A. Blackwell, Vegetable Laboratory, PGGI.

Toastmasters

Dr. Paul H. Terry, Insect Chemosterilants Laboratory, AEQI, previously named Toastmaster of the Year by the A.R.C. Toastmasters Club 3039 has received the honor of being named Outstanding Toastmaster of the Year of the Western Division of District 36. The Western Division consists of 6 Areas, 30 clubs, and about 600 toastmasters.

Long Term Research Programs

Development of BHE Rat Strain

Over the last quarter century, reports from the Nutrition Institute and its predecessors have indicated that the BHE strain (BHE, Bureau of Home Economics) differs from other strains of rats in its metabolism of carbohydrate. BHE rats appear to accumulate more carcass and liver fat when fed high carbohydrate diets than animals of other strains fed a similar diet. Differences in body composition have been shown to be independent of food intake. Studies of various glycolytic, pentose shunt, gluconeogenic, lipogenic, and sterol synthetic enzymes revealed that the activities of these enzymes in the liver are higher in BHE animals than in Wistar animals. Studies of the incorporation of glucose into lipid showed that BHE animal incorporates significantly more glucose into lipid than Wistar animals.

BHE animals may be hyperinsulinemic early in life and this characteristic can be used to predict which animals in this heterogenous strain will become hyperlipogenic and hyperlipemic at maturity. The hyperinsulinism appears to be in response to a decreased peripheral tissue sensitivity to insulin. Pancreatic hyperplasia and increased pancreatic insulin content has been observed in the young rats, followed by pancreatic atrophy, decreased pancreatic insulin content, decreased serum insulin levels and increased serum glucose levels. Early abnormalities in serum lipoproteins have been observed. At 50 days of age a fasting pre β lipoprotein band has been shown when the animals were fed a high sugar diet. The band did not appear until 100 days in animals fed a high starch diet and when animals were fed the commercial chow diet the band did not appear in the majority of the animals tested until 300 days of age. Thus it may be seen that kind and amount of dietary carbohydrate affected the time at which the abnormal lipid profile was observed. Serum lipids in 300 day old BHE animals have been shown to be high particularly when these animals were fed high sugar diets. Kidney nephrosis and hydronephrosis have been consistently observed in BHE animals. Recently myocardial degeneration and aortic calcification and fatty streaks have been observed. Inbred BHE rats have also been shown to have unusually high biotin requirements. The above findings are of importance to carbohydrate nutritionists in that for the first time we have an experimental animal of the rodent species which resembles the human who develops maturity-onset diabetes and heart disease. That we have been able to show a relationship between kind and amount of dietary carbohydrate and the time course of the development of these diseases is of importance. We now have a better experimental model with which to work so as to develop sensitive and reproducible tests for identifying individuals for whom carbohydrate(s) may be a problem nutrient. We also have an experimental situation in which optimal kinds and amounts of dietary carbohydrate can be determined. We will also be able to investigate various interactions of other dietary ingredients with the carbohydrates furthering our knowledge of nutrient interdependence.

Research, using the BHE rat strain as test animals, is continuing in several laboratories of the Nutrition Institute.

Safety

Don't Become A Casualty Statistic--We hear a lot about safety these days. Playing it safe with pesticides, handling of equipment in the field and roadway safety practices when transporting farm machinery are but three areas. And, there is another. As you work with power tools, also work at using them safely. Each year, tens of thousands of people are injured in mishaps involving the use of power tools. You don't have to be a statistic. Remember that the safe way is the right way. The following safety rules point the right way:

1. Know your power tool.
2. Ground all tools unless double insulated.
3. Keep guards in place.
4. Practice good housekeeping in your work area.
5. Keep children away from the work area.

6. Keep tools stored when not in use.
7. Don't force tools.
8. Don't abuse cord.
9. Maintain tools with care.

Visitors

Chile--Mr. Moises Escaff, horticulturist, Estacion Experimental La Platina, Santiago, Chile, visited the Horticultural Crops Marketing Laboratory, AMRI. Mr. Escaff had just completed requirements for the MS degree in Vegetable Crops at the University of California, Davis, and is returning to Chile to undertake research on improved marketing of vegetables.

Sweden--Mr. Per Lindqvist and Birgitta Aren, Horticultural Engineers, with the Fresh Food Section of Kooperativa Förbundet, Stockholm, Sweden, visited the Horticultural Crops Marketing Laboratory and the Transportation and Packaging Laboratory, AMRI. They are with a 2400-store chain of food markets and are studying improved methods of preserving and transporting produce.

Florida--Walter R. Tschinkel, Department of Biological Science, Florida State University, Tallahassee, visited the Systematic Entomology Laboratory, IIBIII on March 23, 1976. The day was spent with T. J. Spilman of SEL discussing the glands of darkling beetles and the possible occurrences of darkling beetles in caves of Latin America.

Lebanon--Dr. Riad Traboulsi, Laboratory of Entomology, Agricultural Research Institute, Fenar, Lebanon recently spent two weeks visiting personnel of the Systematic Entomology Laboratory, IIBIII. He is particularly interested in scale insects and their biological control. He visited with E. W. Baker, G. Gordh, R. D. Gordon, D. R. Miller, K. O'Neill, L. M. Russell, and M. B. Stoetzel.

Malaysia--Mr. Nik Yusoff bin Nik Mohamad, an Agricultural Officer from the Department of Agriculture, Kuala Lumpur, Malaysia, visited the Beneficial Insect Introduction Laboratory, IIBIII, for training in biological/integrated control of plant pests in connection with a USDA-FAO International Training Program. Under the program, during the period February 25 through March 5, Mr. Yusoff visited Jack Coulson and Robert Schroder, BIIL, IIBIII. He also visited the following scientists: W. Nickle, PPI; R. Ratcliffe, W. Cantelo, J. Schalk, and H. Hyland, PGGI; and D. T. Weber, PPHI. Mr. Yusoff also traveled with Dr. Schroder to the Plant Disease Research Laboratory at Fort Detrick, Md., to visit Dr. C. H. Kingsolver, and to Newark, Delaware, to tour the Beneficial Insects Research Laboratory. Mr. Yusoff also accompanied Dr. Schroder on a one-day field trip to survey for the alfalfa weevil and its related parasites.

Louisiana--Mrs. D'eane Sheehan, a graduate assistant at the Veterinary Science Department, LSU, spent 2 days with Dr. F. W. Douvres and Mr. G. M. Malakatis of the Ruminant Helminthic Diseases Laboratory, API. Mrs. Sheehan was shown technics used for in vitro cultivation of nematode parasites of ruminants.

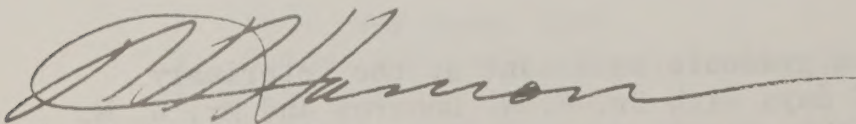
Denmark--Mr. Arne Møller visited with scientists in 16 laboratories during the period of March 8-12, 1976. Mr. Møller is with Agri Contact in Denmark, and keeps agribusinesses in his country abreast of current agricultural research throughout the world.

DHIA--Two busloads of participants to the DHIA meeting in Baltimore visited BARC on March 30, 1976. Dr. Dickinson, Animal Improvement Programs Laboratory, APGI, discussed the assistance his group provided the DHIA program. Dr. J. Smith, APGI, and Mr. Hooven, Assistant to the Director, escorted the groups through the dairy facilities. Drs. Moe and Tyrrell, Ruminant Nutrition Laboratory, NI, explained their projects and research results with the visitors.

Vermont--Forty-six of Congressman Jeffords' constituents toured BARC on March 29. Most of them were dairy farmers. Mr. King, Animal Improvement Programs Laboratory, APGI, covered the Dairy Herd Improvement projects, Dr. Pearson, Genetics and Management Laboratory, APGI, the investigations carried out by that group, and Dr. Moe, Ruminant Nutrition Laboratory, NI, the work conducted by the Energy Metabolism Unit. Mr. Morgan, Visitor Unit, took them on a general tour of BARC. The tour was arranged by Mr. Dunsmore, in Congressman Jeffords' office, who accompanied the group for the day. Four members of the group were State Legislators who were meeting with Congressman Jeffords the following day.

Georgetown--Dr. Barrow's Entomology Class, Georgetown University, visited BARC on March 24. Drs. Miller and Morgan, Chemical and Biophysical Control Laboratory, AEQI, discussed control of flies affecting man and animals, and Dr. Ratcliffe, Field Crops Laboratory, PGGI, covered his research in control of insects on forage crops.

Students--Three winners of the Science Talent Search selected BARC scientists as the professionals they would like to visit during the "Prime Time" day of their week in Washington, D. C., area. William Apfeldorf, Bronx High School of Science, N.Y., talked with Mr. Campbell, Pesticide Action Laboratory, AEQI about weed-host plant interrelationships during the morning, and toured BARC after lunch. Michael Sulzinski, Bishop Hoban High School, Pa., spent the day discussing plant pathology with Dr. Lawson, Ornamentals Laboratory, PGGI, and Drs. Goth and Sinden, Vegetables Laboratory, PGGI. David Boothby, Acton-Boxborough Regional High School, Mass., spent the morning with Dr. Krizek, Plant Stress Laboratory, PPHI, discussing the effect of ozone on plant growth, and the afternoon with Dr. Terry, Insect Chemosterilants Laboratory, AEQI, covering work of this Laboratory. Mrs. Dorothy Schriver, Science Search, who arranged for the visits, recently informed the Visitor Unit that David Boothby was later named eighth place winner and awarded a \$4,000 scholarship. David plans to study chemistry at Harvard.



A. A. Hanson, Director
Beltsville Agricultural Research Center

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
NORTHEASTERN REGION
AGRICULTURAL RESEARCH CENTER
BELTSVILLE, MARYLAND 20705

NOTES FROM THE DIRECTOR

No. 77

May 17, 1976

Agriculture Remains Largest Employer--Although farm numbers are declining in the United States, the fact may be misleading. Agriculture remains the nation's largest employer with some 14 to 17 million people involved in some phase of the food production, delivery system, notes the National Agricultural Chemicals Association. Farming itself engages more than 4.4 million persons. On the consumption side, agriculture is a huge consumer. It should be noted that \$8.8 billion is spent for farm tractors and other motor vehicles, machinery and equipment. Farmers spend \$10.1 billion for fuel, lubricants and maintenance and use more petroleum products than any other industry. It is estimated that farmers use 360 million pounds of rubber, enough to equip 7 million autos, and 33 billion kwh of electricity--more than the combined total of New England states, plus Kentucky, Maryland, and Washington, D.C. Add to this 6.5 million tons of steel for machinery, trucks, cars, fencing and building materials. Farm uses of steel account for 40,000 jobs in the steel industry. Another \$17 billion of farm expense goes for seed, fertilizer, and lime. The NACA points out that most of this farm consumption is not a final consumption, but rather is used to produce food and fiber, which keeps the dollars flowing. How important is agriculture to the rest of the economy? Pretty important if your job is in any of the areas which produce for agricultural consumption.--Southeast Farm Press, March 3, 1976.

Need to Notify Cafeteria--Management of our cafeterias has requested that they be notified when groups are expected at the Center that may be dining at either location, even though reservations are not made. Problems arise in providing service when a workshop or meeting adjourns for lunch and 25 or more people that were not anticipated show up at either cafeteria. Notice may be given by calling the Log Lodge Cafeteria, X42096, at least 1 day prior to the event, between 8 a.m. and 2 p.m.

Expanded Visitor Unit Capability--The Visitor Unit recently acquired a 31-passenger bus from the Navy Department. The bus will be used to transport visitors touring the Beltsville Agricultural Research Center. The first time it was used to consolidate groups was on April 16, 1976. Seven family groups who had requested tours for that date were "consolidated" and given a tour using the bus. The use of the bus will save energy and labor.

April is the Start of a Busy Bicentennial Month for the Visitor Unit--By categories, the visitors included 24 scientists and educators; 160 university students; 1,275 elementary and high school students; 693 individuals and families; plus 254 unscheduled visitors, for a total of 2,406 domestic visitors; in addition, 107 foreign visitors came to BARC. Several Laboratory staffs plus about 28 other scientists assisted with special visitors and groups during April. Please be assured that the time and effort spent with these visitors is an essential part of your total mission.

Emergency Phone Calls-Unconfined Livestock--Emergencies related to loose cattle, sheep, swine, or other animals, or other situations related to BARC's livestock population, should be referred to N. W. Hooven, on X42507 or X42243. For emergencies arising on weekends or holidays, call one of the following:

<u>Supervisor in Charge</u>	<u>Unit</u>	<u>Office Phone</u>	<u>Home Phone</u>
Mr. Vincent Beall	Beef/Sheep	42062	474-3062
Mr. Len L. Strozinski	Dairy	42398 42243	345-7341
Mr. William Greenfield	Dairy	42398	345-6620
Mr. Robert Figulski	Swine	42057	569-4954
Mr. William Peters	Swine	42210	474-1791
Mr. N. W. Hooven, Jr.	All Units	42507	937-7721

CRIS Work Units

CRIS Procedures--In an effort to clarify the procedures for handling CRIS Units, M. C. Carter prepared supplemental Instructions and Procedures for processing CRIS Work Units at BARC. These instructions are complementary to the Manual of Instructions for Preparing Current Research Information System (CRIS) Reports and Research Activities, dated June 1, 1973, prepared by ARS PACS. Please Note: Under item 5, Preparation of CRIS Work Units for New Inhouse Research, Item or Field 95 must be completed. This also applies for item 9, Preparation of CRIS Work Units for Extramural Research. Offices of Institute Chairmen and Laboratory Chiefs should make these corrections on their copies of the Instructions. If additional copies of these Instructions are needed, please call M. C. Carter, on X43088.

CRIS Units Expiring in the Future--Most of the "log jam" of terminated CRIS Units has been cleared. With the cooperation of the NER we hope to be able to notify you prior to the expiration date rather than after the fact.

Miscellaneous Interesting Facts for the Erudite Agriculturalist--A young widow named Eliza Lucas Pinckney experimented with several crops on her South Carolina plantation in the 1740's, decided that indigo offered the best opportunity for profit, and made a go of it--at least for a while. ...A 19th century Connecticut pathologist wrote his initials on a potato in the field with paste from a fungus he believed caused potato scab. When he dug the potato in the fall, he found his monogram neatly etched by the obliging fungus, which proved his point--"USDA," December 10, 1975.

Correction--In issue No. 75, dated April 7, under EEO Activities, we listed the names, rooms, and telephone numbers of the BARC EEO Committee. Inadvertently, we listed an incorrect telephone number for Ms. Maxine Lutz. It should be X43143.

Employee Activities

Dr. N. J. Chatterton, Light and Plant Growth Laboratory, PPHI, represented the United States at a meeting of the Organization for Economic Cooperation and Development in Paris, France, March 8 to 10, 1976, at the request of Mr. T. W. Edminster. Dr. Chatterton wrote the introductory paper for the United States. The purpose of this international meeting was to develop a cooperative photosynthetic efficiency research program among member nations. Thirteen nations were represented.

Dr. Walter Mertz, Chairman, Nutrition Institute, is on a lecture tour of Australia and New Zealand at the invitation of the Commonwealth Scientific and Industrial Research Organization (CSIRO). As part of his trip, Dr. Mertz will deliver the Seventh David Rivett Memorial Lecture at the Congress of the Australian and New Zealand Association for the Advancement of Science (ANZAAS) to be held in Hobart, Tasmania. The title of his talk will be "Nutrition and Health: The Role of Nutrition Research."

Dr. O. A. Levander, Vitamin and Mineral Nutrition Laboratory, NI, has been invited to present a talk entitled "Selenium in Foods," as part of a Symposium on Selenium and Tellurium in the Environment to be held at the University of Notre Dame. This talk will emphasize aspects of selenium related to human nutrition and will discuss the chemical forms of selenium in foods, the nutritional availability of selenium in foods, and provide estimates of typical dietary intakes of selenium.

Visiting Scientists

Shoichiro Akao, Shikoku Agriculture Experiment Station, Shikoku, Japan, is studying nutrition-photosynthate translocation interactions in alfalfa at the Light and Plant Growth Laboratory, PPHI. Mr. Akao will be here until October 1976.

Dr. L. David Kuykendall, Microbiologist, University of California, Davis, has arrived at the Cell Culture and Nitrogen Fixation Laboratory, PPHI, to do Rhizobium genetics research. The objective of this cooperative project is to utilize molecular biology techniques to improve N₂ fixation by the Rhizobium symbiont of soybean.

New Employee

Dr. Jan P. Kochansky, Research Chemist, joined the staff of the Insect Physiology Laboratory, PPI, on April 12, 1976. Dr. Kochansky received his Ph. D. from the University of Colorado, in 1971, and has served since 1972 as a Research Associate with the research team of Dr. Wendell Roelofs, at the New York State Agricultural Experiment Station, Geneva, N.Y., where he worked in the area of insect pheromones. Here he will be conducting research on the chemistry and biochemistry of the biological regulators and essential metabolites of insects, including insect hormones and hormonal chemicals, steroids, and essential nutrients.

Acting Laboratory Chiefs

Biological Evaluation of Chemicals Laboratory, AEQI--D. G. McHaffey, Laboratory Chief, transferred from BARC to Tifton, Georgia, to become Assistant Area Director, Georgia-South Carolina Area, effective April 26. N. O. Morgan was appointed Acting Chief.

Agricultural Equipment Laboratory, PPHI--L. A. Liljedahl, Laboratory Chief, upon his request, was relieved of this assignment effective April 21, to permit him to serve nearly full time as ADOR (Program Manager) for the ERDA-ARS research program on wind energy for farms and remote areas. L. E. Campbell was appointed Acting Chief.

Hydrograph Laboratory, PPHI--H. N. Holtan, Laboratory Chief, retired at the end of December. J. B. Burford, Chief, Hydrologic Data Laboratory, has been also serving as Acting Chief, Hydrograph Laboratory.

Lipid Nutrition Laboratory, NI, and Vitamin and Mineral Nutrition Laboratory, NI, are continuing to operate on a rotational system designating a different staff member each month as Acting Chief.

Committee Membership

BARC Meat Animal and Related Research Committee--Dr. T. F. Webb, Chief, Animal Products Marketing Laboratory, replaced Dr. K. Ono, Meat Science Research Laboratory on this Committee.

BARC Energy Conservation Committee--This new Committee was established early this year and charged with the following six responsibilities: 1) Establishment and operation of an action-type committee; 2) Identification and implementation of short range energy conservation actions and projects; 3) Conduct of surveys for developing energy conservation needs and ideas; 4) Development of long range conservation plans; 5) Preparation of energy contingency plans; 6) Stimulation and motivation of all BARC employees toward energy conservation by publicity and awareness campaigns and techniques. The Chairperson is Mr. D. J. Milano, Chief, Engineering and Planning Branch, DOBA. Members are: Mr. M. C. Carter, Assistant to the Director, BARC; Mr. W. W. Conley, Chief, Maintenance and Construction Branch, DOBA; Mr. P. V. Grubb, Work Management Section, Engineering and Planning Branch, DOBA; Mr. P. E. James, Agricultural Equipment Laboratory, PPHI; Mr. J. N. Sauls, Genetics and Management Laboratory, APGI; and Dr. A. K. Stoner, Vegetable Laboratory, PGGI.

BARC Safety Committee--Richard J. Unger recently transferred to BARC to become the new Safety Officer. He fills the vacancy created by the transfer of S. Tomasetti. R. L. Almond, Head, Division of Operations, served as Chairperson, BARC Safety Committee, during the interim period. We wish to thank Mr. Almond for his assistance in keeping the BARC Safety Committee functioning. As BARC Safety Officer, Mr. Unger becomes Chairperson for the BARC Safety Committee.

BARC Equipment Review Committee--AM 220.1 requires the establishment of an Equipment Review Committee. Dr. Hanson will serve as Committee Chairperson. The nine Institute Chairmen will serve as Committee Members and work with their Laboratory Chiefs since they are responsible for maintaining their respective inventories. This Committee is responsible for reviewing the lists of idle equipment for possible reassignment; reviewing the lists of potential pool equipment, and for establishing and operating the pool, if appropriate; and for preparing a BARC Annual Report to NER. Each Institute shall establish an Institute Equipment Review Committee chaired by the Institute Chairman with each Laboratory Chief serving as members.

Honors and Awards

Alpha Sigma Lambda--Ms. Leoma J. Kruzic, Hydrograph Laboratory, PPHI, became a member of Alpha Sigma Lambda, the national evening school honor society. She achieved this honor by earning a 4.0 average at University College, University of Maryland, as a student in the Upward Mobility Program.

Honorary Doctor of Science--Mr. William N. Sullivan, Chemical and Biophysical Control Laboratory, AEQI, will be awarded the Honorary Doctor of Science by Chicago State University. Mr. Sullivan has made outstanding contributions to our knowledge of improved aerosols and micronized dust for disinsection, and of the effects of manipulated photoperiods on prevention of insect diapause.

Cash Award--Dr. Essex E. Finney, Jr., Instrumentation Research Laboratory, AMRI, for superior leadership and outstanding performance while serving as Chairman of the Agricultural Marketing Research Institute from 1972-1975. Dr. Finney also received a plaque expressing appreciation from the AMRI staff at an Institute reception.

SOLAR POWER FEASIBLE FOR DAIRY FARMS--An array of experimental solar collectors may soon be powering 70 percent of the modern milking parlor at the Beltsville Agricultural Research Center. The solar heating system, which began operating this week, is part of a larger energy project that will also include pre-cooling of milk. The project will eliminate dependence on fossil fuels for space and hot water heating, and cut in half the present fuel cost for milk refrigeration, according to Project Manager Dr. Paul Thompson. The solar heating system employs a 1,000 square foot panel of solar collectors mounted atop the milking parlor roof. Different types of collectors will operate side by side on the panel, enabling scientists to determine the most suitable types for American dairy farms. Hot water from the collectors can be piped to a 10,000 gallon underground storage silo or used right away for heating or cleaning. Separate controls will handle each set of solar collectors, providing operation flexibility. Water temperatures will range from 95°F (26°C) to 180°F (40°C). Conversion of the milking parlor to solar power was carried out using materials commonly available to dairy farmers. Cost of converting the average dairy farm to a solar system could cost as little as \$4,500, or less, if farmers do some or all of the installation work themselves. The cost of the solar collectors can be made up in fuel savings in 5 to 10 years. The conversion of the milking parlor at Beltsville to solar energy is nearly complete. Scientists will concentrate on refining the system's cost savings during the remaining 3 years of the 4-year project funded by the Energy Research and Development Administration (ERDA).

Biographical Sketch

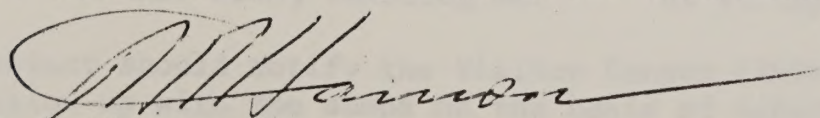
Lewis W. Smith was born in York, Pa., and obtained his academic training at the University of Maryland. He received his B.S. in Dairy Husbandry in 1959, and his M.S. and Ph. D. in Animal Science in 1961 and 1968, respectively. He joined ARS as a Dairy Husbandman in 1961, at Beltsville, in the Nutrition Investigations, Dairy Cattle Research Branch. Concurrent with the reorganization, he joined the staff of the Biological Waste Management Laboratory, AEQI. When the new Feed Energy Conservation Laboratory, APGI, was established at the beginning of FY-76, he was transferred to that Lab and has just been appointed Lab Chief.

In his personal research, he has made original contributions of substantial significance in the fields of physiology of digestion and biochemical analytical techniques and has become an authority on the nutritive value of processed animal excreta as livestock feeds. Dr. Smith developed a method for particle size separation of the plant cell wall fraction from digestive tract, fecal and feed samples. This combined with statistical methods developed by Dr. Waldo permits single numerical expression (log mean and log SD) to adequately describe forage particle size data. He measured rates of passage and digestion of forages as affected by the source and particle size of forage materials using a combination of isotope dilution techniques and more standardized metabolism measurements for these purposes. He was an active member of a research team, investigating formic acid as a silage preservative, which found that the addition of formic acid was an effective and practical means of improving the preservation, feeding value, and digestibility of direct-cut silage.

Dr. Smith explored the possibilities of improving the digestibility of cattle feces by treatment with 10 different chemicals at several levels. Sodium hydroxide and sodium chlorite was identified as being the most promising, on the basis of cost, safety, and effectiveness, for degrading fecal fiber and increasing the accessibility of cell walls to microbial digestion. He developed a method of measuring the in vitro rate of forage cell wall digestion and showed that it followed first-order reaction kinetics even though individual forages differed widely in maturity, composition, and rate of digestion.

Dehydrated poultry excreta was found to be a suitable substitute for conventional protein supplements for ruminants. Efficient excreta nutrient use was demonstrated with growing sheep, dairy steers, and lactating dairy cattle. He determined true digestibility of nitrogen in rations fed to ruminants containing from 13 to 100 percent dry matter from processed animal manure and found this estimate to be in range as for conventional dry feed.

He also conducted studies on chemical composition and digestibility of different types of animal manure and summarized the literature from which he developed the concept that manures from different species of livestock are more effectively utilized as feed by ruminants than by non-ruminant livestock. He participated with an Agricultural Engineer in identifying and testing commercially available equipment for separation of manure into liquid and solids. Such mechanical processing should provide more attractive ways to transport, utilize, or dispose of manure without detriment to the environment.



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NOTES FROM THE DIRECTOR

No. 78

June 15, 1976

Dr. E. E. Leppik, Germplasm Resources Laboratory, PGGI, received the following letter from A. Kupzow, Professor of Genetics and Plant Breeding, Moscow, U.S.S.R.

"To my American colleagues

"Dear Friends,

"I send you my sincere compliments on the occasion of the bicentennial of the U.S.A. and of successful development of your people. It was a very important event in the world history. The American liberty was not united with a terror against dissidents, and the U.S.A. became a refuge for all progressive men and a breeding ground for the development of world economics and science. Now the U.S.A. is a world granary which feeds many less happy peoples. Your stripes and stars on the moon symbolize a science prosperity in your country.

"I trust in God and in future blessed times, when all men shall be free, satisfied and happy. There is a glorious but difficult way. The declaration of the U.S. constitution in 1776 was one of the greatest steps. May the memory of its compilers live forever! They were good guides of the mankind to its best future.

"I wish all best to my American colleagues and to the American people and its agriculture."

Emergency Contacts for Conference Rooms--Anyone noticing service emergencies in the BARC Conference Rooms is requested to notify the appropriate office listed below:

Room 216, Building 200	L. W. Smith	X43431
Building 177B	M. Fisher	X42046
Room 112, Building 307	J. C. Bouma	X42810
Log Lodge, Building 302A	Visitor Center	X42483
Room 411, Building 003	E. H. Hobbs	X43347
Room 120, Building 001	J. G. Moseman	X43235
Room 117, Building 011A	B. Y. Endo	X43848
Building 050	P. C. Kearney	X43076
Auditorium, Building 003	Visitor Center	X42483
Seminar Room, Building 007	A. W. Taylor	X43511

Contact should notify the Visitor Center (X42483). The Visitor Center will follow up with the shops on the basis of scheduling information.

Virology in Agriculture--More than 200 scientists from around the World met at the Beltsville Agricultural Research Center on May 10-12, 1976, to discuss the most recent advances in the study of plant, animal, insect and microbial viruses. This year's symposium, "Virology in Agriculture," is the first in a series of annual symposia to be held at Beltsville. The purpose of the series is to provide a forum for the exploration of scientific developments which will benefit agriculture and of research findings which will have important implications for science in general.

COLLABORATION--In glancing over a publication "Ecological Distribution of 1,000 Economic Plant, IICA, Informacion al Dia Alerta, Agronomia No. 1," prepared by the Plant Taxonomy Laboratory (PTL), PGGI, scientists in the Plant Stress Laboratory, PPHI, expressed interest in sorghum (Sorghum bicolor) reported grown on soils at pH greater than 7.5. They are seeking a sorghum that responds to Fe stress. Using the computerized PTL data base, 12 stations reporting Sorghum bicolor grown on soils at a pH greater than 7.5 were identified. PTL requested seed, in collaboration with the Germplasm Resources Laboratory. Today, as a result of this collaborative effort, high pH sorghum germplasm is being grown here at Beltsville, showing promise for introducing iron-efficient sorghum for field use in the United States. Data on the ecological amplitudes of more than 1,000 crops and weeds are maintained by the Plant Taxonomy Laboratory. The Plant Stress Laboratory is putting some of these data to good use. Here we see fruitful results stemming from collaborative efforts. John Brown, Plant Stress Laboratory, Jim Duke, Plant Taxonomy Laboratory, and Howard Hyland, Germplasm Resources Laboratory, collaborated on this one.

Recent Research Accomplishments--A newly-discovered sex pheromone, or sex attractant, for controlling the cabbage looper moth may be the first known "insect aphrodisiac," according to Martin Jacobson. The aphrodisiac, 2-phenylethanol, was isolated by Martin Jacobson and Vic Adler, from the genital hairpencils, or scent brushes, of the male cabbage looper moth at the Biologically Active Natural Products Laboratory, AEQI. The substance causes female cabbage looper moths to vibrate their wings and raise their abdomens indicating a sexual response. The discovery of 2-phenylethanol marks the second scientific intrusion into the sex life of the cabbage looper, an insect that causes over \$10 million in damages annually to leafy vegetable crops in the U.S. In 1967, the first identified cabbage looper pheromone, looplure, was adapted by ARS scientists for marketing as a biological control technique. Looplure occurs naturally in the female moth. She releases it to attract males for mating. Ironically, the aphrodisiac eventually may be used to stop looper moth sex. The new pheromone, 2-phenylethanol, may suppress the release of looplure by the female and thus stop or reduce mating through failure to attract males. Whereas looplure is difficult to produce and comparatively expensive, 2-phenylethanol is easily available at reasonable cost. It is widely used in flavorings and perfumes and as a strong anesthetic. Mr. Jacobson emphasizes that the aphrodisiac effect has been noted only in cabbage loopers.

Employee Activities

Arnold S. Menke, Systematic Entomology Laboratory, IIBIII, has just published (with R. M. Bohard of the University of California, Davis), a book entitled, "Sphecid Wasps of the World." This landmark text culminates 10 years of research on the solitary wasps of the Sphecidae, an insect family containing over 7,600 species. The book is profusely illustrated and contains keys to all higher groups within the family. Each of the 226 genera is described in detail, information about biology is summarized, and a synonymical species list is appended for each genus. The morphology of the Sphecidae is described in detail, and the classification and phylogeny of the family is discussed.

Richard H. Foote, Chief, Systematic Entomology Laboratory, IIBIII, attended a meeting of the Museum Data Bank Committee held at the Missouri Botanical Gardens in St. Louis, on May 10 and 11. This regular semiannual meeting was convened to consider the need for and application of standards for the automated processing of administrative and scientific museum data.

WLN WORKSHOP--Fifteen BARC scientists completed a 1-day workshop in Wiswesser Line Notation (WLN) on May 13, 1976, under the tutelage of Dr. W. J. Wiswesser, Weed Physiology and Growth Regulator Research Laboratory, Frederick, Maryland. Dr. Alan Gelberg, Bureau of Drugs, FDA, made a brief presentation on the usefulness of the notation in handling chemical information within his agency, while Mr. Charles Granito, Institute of Scientific Information, described commercial applications of WLN. All participants were able to decode chemical structure of moderate difficulty (tricyclics) by the end of the session.

During January and February 1976, Harold F. Winters, PGGI, Germplasm Resources Laboratory, Beltsville, Maryland, and Dr. Raymond L. Clark, Plant Pathologist, Ames, Iowa, explored Central America for tomatoes and other crop plants. The countries visited included Panama, Costa Rica, Nicaragua, Honduras, and El Salvador. The earthquake of February 4 in Guatemala prevented exploration of that country. A total of 310 accessions of seeds, plants, and cuttings were shipped to the United States. Of this total, 213 collections were tomatoes. Other collections included beans, peppers, and ornamental plants.

Harold F. Winters, Germplasm Resources Laboratory, PGGI, presented an illustrated lecture, "Collecting Seeds of Tomatoes and Other Crops in the Andean Regions of Columbia, Ecuador, and Peru," at the May meeting of the National Capital Orchid Society. Many orchid species occupy the same range as tomatoes in these countries, visited by Mr. Winters during July and August 1974.

Insect Collecting Project in Ecuador--In May 1975, Ashley B. Gurney, who retired from the Systematic Entomology Laboratory, IIBIII, at the end of 1974 and is now a Cooperating Scientist of the Laboratory, spent 2 weeks in Ecuador collecting insects in association with a Smithsonian Institution/Peace Corps project. Preliminary results are now available on part of the specimens which Dr. Gurney gathered personally. In several groups which have been

studied closely, especially grasshoppers, crane flies, leafhoppers and caddis flies, significant numbers of new species already have been recognized in addition to many others previously absent from the Smithsonian collection. This material, together with a much larger accumulation being assembled by other entomologists engaged in the Smithsonian/Peace Corps effort, will eventually be a very useful part of reference collections available for use in identifying insects taken in Plant Quarantine interceptions, other service work, studies of biological control, and numerous revisionary taxonomic investigations.

Gift Presented--Several hundred small flies and parasitic wasps were recently submitted to the Systematic Entomology Laboratory, IIBIII, by G. E. Bohart, retired ARS entomologist and now collaborator in the Bee Biology and Systematics Laboratory, ARS, at Utah State University, Logan. These insects were in connection with his studies on the desert biome in Curlew Valley, Utah, and on the oil shale tracts in eastern Utah. In the fly family Chloropidae there were a total of 56 species, of which 25 are undescribed; in the wasp family Braconidae there were about 75 species, of which over half are undescribed. Identifications were made by C. W. Sabrosky, R. J. Gagne, G. C. Steyskal, W. W. Wirth, P. M. Marsh, and R. W. Carlson, Systematic Entomology Laboratory.

Invited Presentation--F. Christian Thompson, Systematic Entomology Laboratory, IIBIII, presented a seminar as part of the Spring Seminar Series of the Department of Entomology, University of Georgia, Athens. The title of the seminar was "Systematics, Zoogeography, and Flies. An Inquiry Into the Age and Origin of Cyclorrhaphous Diptera." Dr. Thompson also consulted with some of the staff and students on various problems of insect taxonomy, and he studied certain flies in the University Museum collection.

Institute of Food Technologist (IFT)--Kent K. Stewart, Chief, Nutrient Composition Laboratory, NI, attended the Institute of Food Technologists' annual meeting in Anaheim, California. Dr. Stewart was chairman of Protein Systems in Foods session of the IFT Bicentennial Basic Symposium "Fundamental Aspects of Proteins Basic to Foods." He took part in the program committee's planning sessions, and had numerous conferences with potential employees for the Nutrient Composition Laboratory. While in the area, Dr. Stewart dropped in on the American Society of Biological Chemists' annual meeting in San Francisco and spoke at an informal seminar at the University of California, Berkeley, on Rapid Nutrient Analysis, Human Nutrition, and Plant Genetics.

Reimbursable Agreement--The Nutrient Composition Laboratory, NI, has signed a reimbursable agreement with the Heart and Lung Institute of NIH for \$125,000 for FY 1976. The Nutrient Composition Laboratory is to provide information on the nutrient content of food in U.S. diets, with particular emphasis on those components correlated to cardiovascular diseases. It is anticipated that the agreement will continue until October 1978. The Laboratory plans to use these funds to purchase equipment and hire additional staff.

Honors and Awards:

USDA Superior Service Award

Howard L. Hyland, Germplasm Resources Laboratory, PGGI, received the USDA Superior Service Award on May 25. He was honored "for outstanding contributions in the introduction and exchange of valuable plant germplasm for use in crop improvement programs throughout the world." Howard started work in plant introduction and exchange in 1956. Over 250,000 plant accessions have been documented and made available to plant researchers since Howard assumed leadership for the plant introduction program. His friends affectionately refer to him as Mr. P.I.

Outside Awards

Milton S. Schechter, former Chief, Chemical and Biophysical Control Laboratory, AEQI, has been named a Fellow of the Association of Official Analytical Chemists.

Edward W. Baker, Systematic Entomology Laboratory, IIBIII, was selected Outstanding Acarologist of the Year, by the International Journal of Acarology, and presented the Berlese Award.

Quality Within-Grade Increases

Florence D. Toffon, Office of Director, BARC.

James A. Knox, Animal Improvement Programs Laboratory, APGI.

Cash Awards

Barbara L. Keller, Nutrient Utilization Laboratory, APGI, for reorganizing procurement system and files resulting in saving of time for the scientists. She worked closely with one of the scientists in assembling, organizing, and typing a 136-page Manual of Laboratory Procedures, in addition to her duties as Laboratory Secretary.

Florence M. Cox, Seed Research Laboratory, AMRI, for maintaining two seed projects: The National Foundation Seed Project, and the OECD Schemes for the Varietal Certification of Seed Moving in International Trade.

Nadine E. Hiers, Plant Genetics and Germplasm Institute, for willingly and efficiently assuming the additional responsibilities of Institute Secretary during the 5-1/2 week period the Institute Secretary was ill.

Michael J. Kraeski, Animal Operations Unit, BARC, for assuming responsibility for the operation of the incubation and hatching facilities of the poultry unit.

Laura Wood, Fruit Laboratory, PGGI, for her performance as Secretary. She greatly helped the smooth functioning of the Laboratory by taking care of administrative duties in a meticulous manner which saved the efforts of others who normally spend time checking correctness of submitted documents.

Committee Assignments

BARC Committee for Library Liaison--J. G. Buta, Plant Hormone and Regulators Laboratory, PPHI, recently replaced G. H. Comer, Hydrograph Laboratory, PPHI, who transferred to SCS.

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VISITORS

Ann Arbor, Michigan--Dr. David M. Gates, Director, Michigan Biological Station, and Professor of Botany, University of Michigan, was a guest speaker on May 18 at Beltsville. His seminar was entitled "Energy and Gas Exchange for Photosynthesis in Leaves." The guest speaker has received wide recognition for his work on the Sun's spectral distribution reaching the Earth's surface, and on the flow of energy through biosystems. Following the seminar Dr. Gates visited with members of the Plant Physiology Institute.

Japan--Mr. Takuzo Tsuruya, Department of Agricultural Engineering, Nihon University, Tokyo, Japan, visited Drs. R. E. Anderson and A. Watada, Horticultural Crops Marketing Laboratory, AMRI. He was particularly interested in developments in the storage of peaches.

New York--The Coleoptera Research Group, Systematic Entomology Laboratory (SEL), IIBIII, was visited recently by two entomologists from New York. Dr. Ross H. Arnett, Jr., Siena College, Loudonville, is collaborating with several SEL coleopterists on a forthcoming catalog of North American beetles, and spent a day discussing this catalog and the classification of beetles in general. Dr. Richard Root, Cornell University, spent some time studying various species of longhorned beetles associated with milkweed plants.

Canada--Ms. Constance Nozzolillo, biochemist, working with vetch seedlings at the University of Ottawa, Ottawa, Canada, visited Drs. C. R. Gunn and James A. Duke, Plant Taxonomy Laboratory, PGGI, May 9, 1976. Ms. Nozzolillo was interested in the taxonomy and biochemistry of vetches and the chemical and morphological aspects of legume seedlings.

Brazil--Dr. Silvio Blauth, manager of two very large cattle ranches in Sao Paulo, Brazil, visited the Animal Parasitology Institute in conjunction with his primary mission to purchase 400 purebred Holstein-Friesian heifers. He discussed his parasitic diseases problems with Drs. F. W. Douvres and T. O. Roby, and was briefed by Dr. J. R. Lichtenfels on the mission and services of the Parasitological Collection and Index-Catalogue of Medical and Veterinary Zoology.

USSR--Dr. R. V. Dushuk, Deputy Director, Swine Disease Laboratory, All Union Institute for Experimental Veterinary Medicine, Moscow, visited the Animal Parasitology Institute on April 21, 1976. He met briefly with Dr. F. D. Enzie, Chairman, for a general overview of the API research program and with Dr. Robert D. Romanowski and Dr. Robert S. Isenstein, Non-Ruminant Helminthic Diseases Laboratory, for discussions relative to Laboratory research programs with swine.

VISITORS (Continued)

England--Mr. Andrew A. Hignett, Director, A. E. Beckett & Sons, Ltd., Birmingham, England, consulted recently with Clarence Harris and Tarvin Webb, Animal Products Marketing Laboratory, AMRI; Hajime Ota, Non-Ruminant Animal Nutrition Laboratory, NI; and Raymond Schar and Irvin Peterson, Animal Improvement Programs, APGI, to obtain information for a 4-month study of egg marketing and production in the United States. The study program is being financed by a Nuffield Traveling Scholarship.

Australia--Marvin D. Volz, Market Operations Research Laboratory, AMRI, and James J. Karitas, Food Distribution Research Laboratory, AMRI, met with Mr. Richard Vanden Driesen, industrial engineer with G. J. Coles & Coy, Ltd., chainstore operators in the major cities of Australia, and Mr. Richard Hall, United Fresh Fruit and Vegetable Association. The purpose of the meeting was to discuss principles, guidelines, packaging materials, equipment, work methods, layouts and shipping containers for centralized warehouse produce packaging.

Hawaii--Mr. K. Sakimura, retired Chief of Entomology, Pineapple Research Institute of Hawaii and present Honorary Associate in Entomology of the Bernice P. Bishop Museum, Honolulu, came to Beltsville on April 7 for several weeks' work on taxonomy of thrips. Mr. Sakimura pioneered in the study of the role of thrips in plant disease transmission, and since his retirement has worked on taxonomy of thrips. Through a BARC Cooperative Agreement, he is completing joint studies with Kellie O'Neill, Systematic Entomology Laboratory, IIBIII, and is preparing a report on the thrips fauna of Jamaica for the Food and Agriculture Organization of the United Nations.

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Biographical Sketch

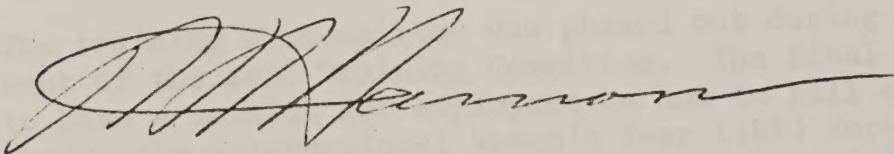
Kenneth R. Hill was born in Hillsboro, Illinois. He obtained three degrees from Purdue University--a B.S. in Chemistry in 1952, an M.S. in Organic Chemistry with a minor in Physical Chemistry in 1958, and a Ph. D. in Organic Chemistry with a minor in Physical Chemistry in 1961.

Before pursuing his advanced degrees, he began his career as a Research Chemist for Pitman-Moore Company, Division of Dow Chemical. This was followed by graduate school where he investigated the use of endoxidant chlorine-hydrocarbon flames for the synthesis of polynuclear halogenated compounds and new types of carbon blacks containing covalently bound chlorine and other elements such as sulfur, nitrogen, silicon, boron, and bromine for his Ph. D. thesis. Following the completion of his Doctorate, while engaged in research and development for P. R. Mallory & Company, Inc., Dr. Hill led a team which determined the effects of solvents, electrolyte salts, substrate metals, and impurities on the efficiency of lithium deposition and dissolution in organic solvents under various contracts with NASA and the U.S. Army. He joined ARS as a Research Chemist at Beltsville in 1967, became an

Investigations Leader in 1968, and concurrent with the reorganization he became Chief, Analytical Chemistry Laboratory, AEQI.

As Investigations Leader, with responsibility for analytical research laboratories in Beltsville, Maryland; Tifton, Georgia; Kerrville, Texas; and Yakima, Washington, Dr. Hill led a broad and productive research program resulting in a large volume of pesticide residue data and methods of analysis of considerable utility to the USDA regulatory and advisory services, to regional research projects, to the Association of Official Analytical Chemists, and to international agencies such as FAO and Codex Committee on Pesticide Residues. Dr. Hill and Dr. Beroza invented and patented an inexpensive and accurate fiber optic scanner for quantitative analysis of pesticide residues on thin layer chromatograms. The instrument made pesticide residue analysis available in countries unable to operate gas chromatographs and to students, and also has found wide usage in clinical laboratories and elsewhere. The Kontes Company was granted a license to manufacture the scanner, and the first models were marketed in early 1973. In cooperation with entomologists and chemists from ARS and the USPHS, Dr. Hill determined the distribution and settling rates of micronized insecticide dusts in aircraft and supervised all phases of sampling and chemical analysis required. The results of these tests were used to obtain a registration label for the use of micronized DDT/carbaryl dust mixtures in treating commercial and military aircraft. More recently, Dr. Hill, assisted by Mr. W. M. Jones, conceived and constructed an apparatus for adapting the phosphorus and/or sulfur specific flame photometric detector to liquid chromatography. This apparatus led to a new system of residue analysis wherein the selective detector is used to measure pesticide residues directly as they elute from a cleanup column.

He is a member of Alpha Chi Sigma and Sigma Xi, and of nine professional societies. He has presented numerous invitational talks, participated in many technical conferences and workshops, held several offices and committee assignments in professional societies, and served in a technical advisory capacity for a variety of activities.

A handwritten signature in dark ink, appearing to read 'A. A. Hanson', with a long, sweeping horizontal line extending to the right.

A. A. Hanson, Director
Beltsville Agricultural Research Center

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
NORTHEASTERN REGION
AGRICULTURAL RESEARCH CENTER
BELTSVILLE, MARYLAND 20705

NOTES FROM THE DIRECTOR

No. 79

July 20, 1976

Highlights of BARC EEO Committee's Activities, January 1975, through March 1976

The BARC EEO Committee has worked with Dr. Hanson in attempting to alleviate employees' concern over their futures and the future of BARC. This report highlights several items that have received attention.

Merit Promotion System

A major concern of the Committee has been with personnel policies. They have had members of the NER Personnel Branch attend several of their meetings to discuss with them various aspects of personnel procedures including the Merit Promotion System.

During this period, the Merit Promotion Plan was revised. Efforts have been made to inform all employees when jobs they have applied for are filled.

Realizing that anything can be improved, the Committee is still working with Personnel to make the system work more smoothly.

EEO Awards

Guidelines developed in subcommittee and modified and approved in full committee have been distributed to the Institutes. The six-point guidelines have already been used to identify candidates for EEO awards.

Training

The training subcommittee was phased out during this period following the establishment of the BARC Training Committee. The final objective of the subcommittee was to have a session for employees on how to fill out an SF-171. This was accomplished during the International Women's Year (IWY) Workshop held October 1 through 3, 1975. The BARC EEO Committee was instrumental in initiating the IWY Workshop.

Communication lines remain open between the Committee and NER Employment Development Unit on new training plans and objectives for BARC employees. Continuing programs are available to all employees who wish to improve their academic credentials (i.e., GED--a high school equivalency test, or CLEP--a college level equivalency test which can give up to 30 units if all five tests are passed).

Janitorial Services

A subcommittee was formed to investigate janitorial duties and grade levels assigned to male and female employees. As a result of this investigation, all the positions were audited and counseling was given to women employees. Since the counseling sessions, the Employee Development Unit has kept these employees informed of jobs for which they would be qualified, and of assistance available to them in completing SF-171's, literacy, etc.

Vacancy Announcements

Getting vacancy announcements to employees in time for them to apply for positions is a major concern of the Committee. The problem seems to be due to a distribution failure. Since there have been recent changes in laboratories and work units, efforts are now underway to update the mailing list. Also, the telephone number for Dial-A-Vacancy has been placed in a readily visible place on each official bulletin board, as well as being printed on each vacancy announcement.

Additional Questions and Concerns Considered by the Committee

Some of the other areas covered were: selection criteria for jobs, cancellation of job announcements, selection of employees under merit promotion and appointments, grade level determinations, Government vehicle operator requirements, the College Study Program, and training and orientation of supervisors.

EEO Committee Members

Employees are encouraged to bring their questions and concerns to the attention of any one of the following members:

Mr. Herbert Johnson, Bldg. 224, BARC-East, X42062
 Ms. Patricia McCawley, Room 229, Bldg. 011A, BARC-West, X43689
 Dr. Amber L. S. Cheng, Room 307, Bldg. 001, BARC-West, X43872
 Ms. Eleanor C. Moore, Bldg. 104, BARC-East, X42406
 Ms. Nancy Enkiri, Room 345, Bldg. 007, BARC-West, X43052
 Ms. Linda S. Randall, Bldg. 263, BARC-East, X42334
 Mr. Charlie Jackson, Room 107, Bldg. 200, BARC-East, X42284
 Ms. Joyce Shaffer, Room 103, Bldg. 002, BARC-West, X43650
 Mr. Melvin Jackson, Room 45, Bldg. 427, BARC-East, X43562
 Mr. Merrill Timmons, Bldg. 228, BARC-East, X42121
 Ms. Maxine Lutz, Room 206, Bldg. 001, BARC-West, X43145
 Mr. Robert L. Smiley, Room 2, Bldg. 004, BARC-West, X43891

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Interagency Agreement -- The Pesticide Degradation Laboratory, AEQI, has received a \$50,000 interagency agreement from the Environmental Protection Agency to conduct research on the herbicide, silvex, and its contaminant dioxin. Dioxin is a very toxic impurity formed during the synthesis of trichlorophenoxy herbicides such as 2,4,5-T and silvex. Research will be conducted in specially designed ecosystems developed by Dr. R. G. Nash and Mr. M. L. Beall. The scope of the research will include (1) occurrence and persistence of dioxin in aerosol liquid spray, (2) volatilization, (3) distribution, persistence, and degradation in soil, (4) accumulation in soil macro-flora and -fauna, and (5) the role of vapor phase photolysis in degradation of dioxin.

De Leon Library to Systematic Entomology Laboratory -- A major collection of specimens of mites and research literature on this agriculturally important group, developed by the late Dr. Donald De Leon, has been donated to the Systematic Entomology Laboratory, IIBIII. Dr. De Leon was employed by the Bureau of Entomology and Plant Quarantine from 1928 to 1950, and then with the Foreign Aid Program of the State Department in the Philippines until 1953, when he retired from active work. Dr. De Leon conducted research principally in the southeastern United States,

the Caribbean region, and southern Mexico on the taxonomy of plant feeding mites and their predators, and he published the results of this research until his death in 1966. The donated collection includes paratypes and series of identified material, a valuable addition to the collections of the Systematic Entomology Laboratory as they represent the fauna of areas as yet little understood in both the plant feeding and predaceous mites, especially in their distribution patterns. The collection comprises about 3,500 identified slides, including about 350 types of mites. The library consists of about 1,500 reprints and monographs.

XV International Congress of Entomology -- The Congress will be held August 19-27, 1976. A tour of BARC will be held on the Congress Tour Day, Tuesday, August 24.

BARC Tour, Inter-American Institute of Agricultural Sciences -- The tour was held May 12, 1976. A note of appreciation was received from the Director, International Programs Division, ARS, for the very competent manner in which the tour was conducted.

Employee Activities

Dr. Gordon Gordh, Systematic Entomology Laboratory, IIBIII, recently attended the Animal Behavior Society Meetings held in Boulder, Colorado, and participated in a symposium dealing with courtship behavior in arthropods. Dr. Gordh gave a talk on sexual behavior in parasitic wasps.

Dr. A. J. Oakes, Agronomist, Germplasm Resources Laboratory, PGGI, Beltsville, and Dr. E. C. Bashaw, Geneticist, ARS, Texas A&M University, recently completed a joint forage grass exploration in South Africa. Special emphasis was placed on buffelgrass and lovegrass. Winter hardy and sexual types of buffelgrass were sought to extend the production range and furnish additional germplasm for use in plant improvement programs with this apomictic species. Additional germplasm was obtained of certain other warm-season pasture grass species, including Digitaria and Hemarthria. A total of 1,380 accessions were collected by the two-man team over a wide range of environmental conditions throughout all provinces of the Republic. The experienced plant explorer-plant geneticist provided an effective team that resulted in a very successful plant exploration.

Dr. Arnold S. Menke, Systematic Entomology Laboratory, IIBIII, recently returned from a 4-week trip to Venezuela. He was the initial participant in a cooperative program involving SEL staff and the Department of Entomology of the Universidad del Zulia in Maracaibo. The University is hoping to use SEL expertise to curate their insect collection so that they will have a better base for the study of agriculturally important species. In return for this service, the University will cover expenses in Venezuela and SEL staff will benefit by being able to conduct field work in that country. Menke curated collections at the universities in Maracaibo, Maracay, and Merida. He returned with over 8000 wasps and other insects collected during his stay in Venezuela.

A Significant Research Advance, Reported by Dr. I. R. Schneider, Plant Virology Laboratory, PPI -- The satellite of tobacco ringspot virus (S-TRSV) is an unusual defective virus with properties of interest to virologists engaged in basic research. The satellite also possesses properties of potential value for the control of virus diseases. S-TRSV is a multidense population of components unlike any previously described virus and each virus particle contains 12 to 25 nucleic acid strands that

are very small, approximately the same size as a viroid. These strands will replicate only in the presence of tobacco ringspot virus (TRSV), but TRSV is completely independent of the satellite. Although S-TRSV is completely dependent upon TRSV, it has the ability to inhibit the replication of TRSV, and it thus could be a very specific biological control agent. With a commonly found serotype of TRSV, S-TRSV will replicate at the expense of TRSV, and will reduce the amount of TRSV formed in the plant more than 1,000-fold; yet since S-TRSV cannot infect alone, it does not pose a threat to crop plants.

A recently discovered property of S-TRSV, which in a new way makes it unique among viruses, is its most unusual population of double-stranded nucleic acids, presumably the replicating forms of this defective virus. These nucleic acids are found only in S-TRSV infected plants, and not in TRSV-infected or in healthy plants. Unlike the situation with other viruses, most of these double-stranded nucleic acids are 2 to 20 times the length of the nucleic acid that eventually is enclosed within the viral protein shell rather than equal in size to the viral RNA. These unusual replicative complexes may explain the replicating advantage of S-TRSV over TRSV, and studying highly purified samples of these complexes will give us an unusual opportunity of learning more about the origin of S-TRSV and how S-TRSV can so effectively inhibit the replication of TRSV. Whereas we do not yet have sufficient evidence that we can use satellite or defective viruses to control plant virus diseases, it is to be expected that studies of the properties of the satellite of tobacco ringspot virus will provide knowledge which will be useful in the control of TRSV and other viruses.

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Honors and Awards

Outside Awards

Dr. Dale R. Waldo, Ruminant Nutrition Laboratory, NI, received the American Feed Manufacturers Association Award for his studies of the nutritional value of grass silage.

Dr. Sterling B. Hendricks, Collaborator with the Pesticide Action Laboratory, AEQI, is the recent recipient of two very high awards for his contributions to science. One of these is the National Medal of Science which was established by Congressional action in 1961. It is presented for: "...achievement in the fields of physics, biology, mathematics, and engineering science...of unusual value to the nation." The presentation is made by the President. The medal has been awarded in 12 of the last 15 years to a total of 102 recipients. The medal has previously been given to one scientist from the U.S. Department of Agriculture, Dr. Edward F. Knipling, in 1966. Only one other person has previously been so recognized for work in agriculture. He is Dr. Jay L. Lush, Iowa State University.

Fifteen scientists have been selected for the award for 1975. These include two scientists working in agriculture. They are Dr. Sterling B. Hendricks and Dr. Orville A. Vogel. The award is to be made by President Ford on a date that still is to be set.

The other is the Finsen Award (a medal), which is an award made by the International Committee on Photobiology. This society is an international one concerned with all aspects of the biological effects of light. It is particularly concerned with the effects of sunlight.

The Finsen Award recognizes accomplishments in photobiology. The award was first given in 1937 and has been awarded 13 times in the last 39 years. The recognition of Dr. Sterling B. Hendricks is for: "...contributions to the control of plant development processes by light." The award is to be presented at the Congress of the Society in Rome, Italy, August 29 to September 3, 1976.

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Cash Awards

Mr. Michael J. Kraeski, Animal Operations Unit, for sustained outstanding work performance.

Mr. Howard DeWeese, Farm Management Branch, Division of Operations, for outstanding performance of assigned duties.

Ms. Nadine E. Hiers, Plant Genetics and Germplasm Institute, for assuming the additional responsibilities of Institute Secretary for 5½ weeks.

Ms. Florence M. Cox, Seed Research Laboratory, AMRI, for maintaining the National Foundation Seed Project and the OECD Scheme for the Varietal Certification of Seed Moving in International Trade.

Quality Within-Grade Increase

Ms. Dorothy S. Jessop, Systematic Entomology Laboratory, IIBIII.

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Changes in BARC Committees

BARC Master Plan Committee--Dr. W. A. Gentner, Pesticide Action Laboratory, AEQI, has been appointed to fill the vacancy that will occur upon the retirement of Dr. L. L. Danielson, Chairman, AEQI.

BARC Safety Committee--Dr. R. G. Nash, AEQI, has replaced Dr. R. M. Waters. Dr. R. Faust, PPI, has replaced Dr. R. B. Rebois. In addition, the following have been added to the Committee: Mr. R. W. Gallup, AMS, Grain Division; Dr. R. L. Jasper, EPA, Chemical and Biological Investigations Branch; Mr. G. Stefan, HEW, FDA, Veterinary Research; and Mr. W. Ritchie, APHIS, Veterinary Services Laboratory.

BARC Science Seminar Committee--Dr. J. R. Lichtenfels, Curator, National Parasite Collection, API, and Dr. G. R. Beecher, Protein Nutrition Laboratory, NI, have been elected new cochairpersons, replacing Dr. T. O. Diener, Plant Virology Laboratory, PPI and Dr. G. W. Schaeffer, Cell Culture and Nitrogen Fixation Laboratory, PPHI. Dr. R. Lumsden, Soilborne Diseases Laboratory, PPI, has replaced Dr. Diener.

Changes in BARC Committees (Continued)

BARC Training Committee--Mr. O. E. Michaelis, Carbohydrate Nutrition Laboratory, NI, has been reappointed. Dr. C. F. Cohen, Insect Physiology Laboratory, PPI, has replaced Mr. M. J. Thompson, Insect Physiology Laboratory, PPI, and Mr. B. J. Eldridge, Nematology Laboratory, PPI. (This reduces the total membership by one so that each Institute has only one member.)

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Visitors

Israel--Dr. Itzhak Teich, Head of the Plant Protection Division, Ministry of Agriculture, Jaffa, while on a 2-month study tour of agricultural research institutes investigating the use of attractants for the survey and control of insect pests of cotton, alfalfa, fruit and vegetable crops, and stored products, spent a week with the Biologically Active Natural Products Laboratory, AEQI, where he had mutually beneficial discussions of cooperative research with Mr. M. Jacobson, Dr. R. M. Waters, Mr. V. E. Adler, and Dr. M. Schwarz.

New Zealand--W. R. Boyce, Director, Levin Horticultural Research Centre, Levin, New Zealand, visited the Vegetable Laboratory during the week of May 24, 1976, to discuss vegetable research of mutual interest.

Pakistan--Dr. Davis Khan, visiting Beltsville on a PL-480 conference, visited with Dr. J. P. San Antonio and staff from June 9, 1976 to June 11, 1976.

France--Dr. John F. Laborne from Bordeaux, France, visited with Drs. San Antonio and K. L. Deahl on June 11, 1976, concerning mushroom research.

Chile--Dr. Juan Garcia Huidubro, Veterinary Science, from Santiago, Chile, visited Beltsville to talk with Dr. J. P. San Antonio on Mushroom growing technology (June 22, 1976).

Illinois--Dr. Michael E. Irwin, Assistant Professor, International Soybean Program, Urbana, Illinois, spent June 22-25, studying aphids with Dr. Manya B. Stoetzel, Systematic Entomology Laboratory, IIBIII. Dr. Irwin is studying virus transmission in soybean fields in Illinois and has collected aphids both in yellow pan traps and on sticky traps. Dr. Stoetzel is supplying keys to and taxonomic information on the various species being collected. Dr. Stoetzel is helping Dr. Irwin learn to identify the "common" aphid species.

Pennsylvania and Georgia--Dr. John Coyle, Head, Department of Business Logistics, Penn State University, and Dr. Joseph L. Cavinato, Department of Business Logistics, University of Georgia, met with Mr. John C. Bouma, Chief, Market Operations Research Laboratory, AMRI, and Dr. Jack L. Runyan, Food Distribution Research Laboratory, AMRI, to discuss logistics management in the food industry. Both Dr. Coyle and Dr. Cavinato are planning to offer a course in Business Logistics in the Food Industry at their respective institutions.

Visitors (Continued)

The Netherlands--Dr. Robijns, Dr. Wijgergangs, and Dr. Truijen of The Netherlands Veterinary Service visited the Animal Parasitology Institute, June 28, to discuss current research programs with Dr. F. D. Enzie, and specific researches with Drs. F. W. Douvres, T. O. Roby, and R. Fayer.

Norway--Messrs. Ottar Jamt and Magne Studbjoen of the Agricultural Research Council of Norway visited the Animal Parasitology Institute, July 7, to discuss with Dr. F. D. Enzie the organization of the Institute, current research programs, research program reviews and evaluation.

Russia--The Animal Parasitology Institute was host to two visiting Soviet Helminthologists June 30 through July 7. Dr. Vytautas Kontrimavichus, Director, Institute of Biological Problems of the North, Magadan, USSR, and his wife, Dr. Svetlana K. Bondarenko, studied specimens in the National Parasite Collection, presented a seminar, and arranged for exchange of literature and parasite specimens with members of the staff of the Parasite Classification and Distribution Unit.

Georgia--Ms. Janet Calpin, School of Veterinary Medicine, University of Georgia, Athens, visited the Animal Parasitology Institute July 6 and 7 to study nematode parasites of horses with Dr. J. R. Lichtenfels.

South Africa--Mr. Johan C. Combrink, Plant Pathologist, Fruit and Fruit Technology Research Institute, Stellenbosch, Republic of South Africa, visited the Horticultural Crops Marketing Laboratory, July 13, 1976. He visited with Drs. R. E. Hardenburg and R. E. Anderson on postharvest storage and diseases of apples and peaches.

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Biographical Sketch

Curtis W. Sarbrosky obtained an A.B. in Biology from Kalamazoo College, Michigan, in 1931, and an M.S. in Zoology from Kansas State College, Manhattan, in 1933. He did part-time graduate work, was a high school teacher, and employed by Michigan State College before he entered government service in 1944. He was employed by the Public Health Service for 2 years before joining USDA as a Research Entomologist in Washington, D.C.

He received a Distinguished Alumnus Citation from Kalamazoo College in 1951, shared in the Diptera Unit's USDA Superior Service Award in 1955, received a USDA Superior Service Award in 1962, a Distinguished Service Award from Kansas State University in 1965, an Honorary Doctor of Science from Kalamazoo College in 1966, and was elected Fellow of the Entomological Society of Canada in 1975.

Dr. Sarbrosky has been very active in the professional societies in his field, serving as President, Society of Systematic Zoology (1962); President, Entomological Society of America (1969 and 1972); President, XV International Congress of Entomology (1976). In addition, he has been a member of the Permanent Committee for

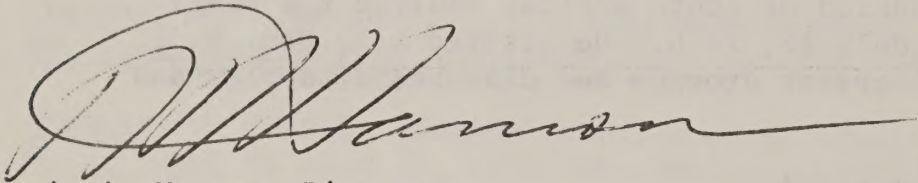
Biographical Sketch (Continued)

the International Congresses of Entomology since 1960; the International Commission on Zoological Nomenclature since 1963; the Council of the Commission on Zoological Nomenclature since 1972; the Editorial Committee, International Code of Zoological Nomenclature from 1958 to 1961; and appointed member of the Editorial Committee to prepare a new edition of the Code; and elected Honorary Foreign Member, All-Union Entomological Society (USSR), in 1973.

He served as a member of the Panel on Systematics and Taxonomy established by the Committee on Environmental Quality of the Federal Council on Science and Technology (1967-68); as a member of the National Research Council's Committee on Systematics in Support of Biomedical Research (1969-70); and participated in a 1-month survey visit in Leningrad and Moscow as part of the Science Exchange Program between the U.S. National Academy of Sciences and the Russian Academy of Sciences.

Dr. Sarbrosky is listed in America Men of Science, Who's Who in America, Who's Who in the East, and World Who's Who in Science. He has attended seven International Congresses of Entomology and four International Congresses of Zoology.

As a research scientist of the Diptera Research Group, Systematic Entomology Laboratory, IIBIII, he conducts research on the systematics of Tachimidae flies, Chloropidae (eye gnats), and Cuterebridae (roden bots).



A. A. Hanson, Director
Beltsville Agricultural Research Center

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
NORTHEASTERN REGION
AGRICULTURAL RESEARCH CENTER
BELTSVILLE, MARYLAND 20705

NOTES FROM THE DIRECTOR

No. 80

August 27, 1976

Putting Research to Work

Milk Processing Plant for a Dairy Farm Operation -- In response to a request and in cooperation with the Oklahoma State Department of Agriculture and State Health Department, a study was made by Charles F. Stewart, Animal Products Marketing Laboratory, AMRI, to develop plans for a new on-the-farm dairy processing plant near El Reno, Oklahoma. Processing plants built in conjunction with production operations are somewhat unique and growing in popularity throughout the United States. The new plant was designed and equipped to process and handle the production of a 200-cow herd. Approximately 85 cows were milked daily with the total production being sold to a nearby cheese processing plant. In order to operate at planned capacity, raw milk will be purchased from other local dairy farmers to supplement present production until the herd size can be increased to meet requirements. By processing the farm production and that purchased from other dairymen, the farm revenue will be increased by \$30,000, annually. The new plant will be important to the local economy since it creates additional employment opportunities and provides a source of products for the small volume retail sales outlets that cannot be efficiently served by the larger processors. The new plant is currently in operation and serves as a model for other dairy farm operators considering the construction of similar facilities.

Biological Control for Mexican Bean Beetle Larvae -- A cooperative agreement with the University of Maryland, funded by the Beneficial Insect Introduction Laboratory, IIBIII, has been terminated after successfully demonstrating the use of biological control to reduce the need for pesticides. Dr. Allen L. Steinhauer and Dr. L. M. Stevens of the University of Maryland conducted field studies with Pediobius foveolatus, a parasitic wasp introduced from India by George Angalet, ARS, Newark, Delaware, against the Mexican bean beetle, a serious pest of soybeans in the Middle Atlantic States. Over the past 3 years, Dr. Steinhauer and Dr. Stevens released P. foveolatus in diverse locations in 12 Maryland counties. Although the wasp does not overwinter, it produces several generations per season, disperses over 40 miles from its release site, and parasitizes 80 to 90% of Mexican bean beetle larvae. Use of the wasp as a biological control method, in 1974, reduced the need for commercial spraying from 1/3 to 1/2 the 1973 levels in several Maryland counties.

Special Field Activities

Maytenus Procurement in Africa -- Three Medicinal Plant Resources Laboratory, PGGI, botanists will participate in a major field program to procure a large supply of Maytenus buechananii in Kenya and to obtain additional germplasm of this plant in Tanzania and Zambia. The plant is the source of maytansine, a promising new anticancer agent which has completed the first phase of clinical evaluation.

Additional maytansine is now needed for further clinical evaluation. Sandra M. Saufferer departed Beltsville, July 31, and is continuing a reconnaissance in the Shimba Hills of Kenya where the plant, though not common, is most abundant. Richard W. Spjut will travel to Zambia to assess reports that the plant is common along the northern frontier of that country before proceeding to Kenya. Robert E. Perdue, Jr., Chief of the Medicinal Plant Resources Laboratory, will depart September 7 to join S. Saufferer and R. Spjut in Kenya. Objective is to obtain enough plant material to assure an adequate supply of maytansine until the plant can be brought under cultivation. Contracts will be negotiated for cultivation of M. buchananii in Kenya, and Putterlickia verrucosa, another source of maytansine, in South Africa.

Insect Collecting in Texas -- Douglass Miller and Robert Gordon, Systematic Entomology Laboratory, IIBIII, spent 3 weeks in Texas collecting insects during May. Dr. Miller collected mealybugs and scales, and Dr. Gordon collected beetles associated with rodent burrows and beetle predators of scales and mealybugs. The material was collected primarily for use in current research projects and, also, for use in long-term research on these groups as a whole. Several new species were found and many host and predator associations established for the first time.

Employee Activities

Deane F. Weber has been Acting Chief for the Cell Culture and Nitrogen Fixation Laboratory, PPHI, since July 1, 1976. He will continue to act in this capacity for a total of 2 months, at which time the position will be filled on a rotating basis every 2 months by other scientists in the Laboratory until a permanent Chief has been appointed.

A. B. Borkovec, Chief, Insect Chemosterilants Laboratory, AEQI, was the program chairman and organizer of the 8th Congress of the Czechoslovak Society of Arts and Sciences in America. The Congress was held at Georgetown University on August 12-15. Dr. Borkovec was reelected vice president of the Society.

Robert K. Howell, Plant Stress Laboratory, PPHI, recently appeared on the program "Across the Fence" to discuss with Mr. Layne Beaty "Air Pollution Damage to Trees and Ornamentals." He also appeared on the "Down to Earth" program and discussed "Air Pollution: Problems and Progress for Agronomic and Horticultural Crops."

Paul R. Miller and Hazel Pollard, Applied Plant Pathology Laboratory, PPI, prepared a Multilingual Compendium of Plant Diseases. A copy of the four-language publication was provided T. W. Edminster, Administrator, ARS, who expressed thanks, appreciation, and congratulations for a job well done.

Welcome to a New Staff Member -- Donald R. Whitehead recently joined the staff of the Coleoptera Research Group, Systematic Entomology Laboratory, IIBIII, replacing Miss Rose Ella Warner who retired after 30 years' service. Dr. Whitehead received the Bachelor of Science degree from Rutgers University in 1961. After 2 years of military service, he entered the University of Alberta, Edmonton, and majored in taxonomic entomology. He received his Ph. D. from that institution in 1971. From

1972-1976, he worked on the taxonomy seed-infesting insects at the Systematic Entomology Laboratory on a National Science Foundation grant with Dr. D. H. Janzen of the University of Michigan. Dr. Whitehead started in his present position on June 1 of this year. He brings with him an extensive background of studies in classification, zoogeography, and evolution of ground beetles, plant bugs, seed beetles, and weevils, and has published 22 papers on these groups. He will be responsible for taxonomic research and identification in the Curculionidae, or weevils. This plant-feeding family of some 50,000 species in the World includes many economically important crop and stored food pests as well as a number of species now used to control undesirable plants. Dr. Whitehead belongs to a number of scientific societies, among them the New York Entomological Society, the Entomological Society of Washington, and the Society of Systematic Zoology. He is Editor of the Coleopterists Bulletin.

Changes in BARC Committees

BARC EEO Committee -- N. P. Wong, Dairy Foods Nutrition Laboratory, NI, replaced Emily Conway who recently retired. Thomas Hunter, Cooperative Farm Building Plan Exchange Unit, will replace M. S. Timmins, who will rotate from the Committee in October.

BARC Training Committee -- C. C. Calvert, Feed Energy Conservation Laboratory, APGI, has replaced R. E. Pearson who rotated from the Committee.

BARC Small Animal Care Committee -- T. J. Sexton, Avian Physiology Laboratory, APGI, has replaced H. C. Cecil on this Committee.

BARC Science Seminar Committee -- N. J. Chatterton, Light and Plant Growth Laboratory, PPHI, has replaced G. W. Schaeffer on this Committee.

BARC Safety Committee -- T. P. Collins, Instrument Shop, has been appointed to this Committee as a representative of the Director's Office.

Honors and Awards

Outside Awards

H. Marc Cathey, Chief, Ornamentals Laboratory, PGGI, recently received the Past Service Award from the Florist Transworld Delivery at its 1976 convention in Denver, Colorado. The award was given "For outstanding and dedicated service and in special recognition of his contributions of time and effort for the betterment of the retail florist industry." While at the convention, Dr. Cathey made a presentation entitled "Personal Plants," which stresses new plants on the market and how retail florists can handle them.

Howard L. Hyland, Plant Introduction Officer, Germplasm Resources Laboratory, PGGI, was presented a Certificate of Appreciation by the Technical Assistance Bureau of the Agency for International Development, Department of State. The citation was "In recognition of outstanding capability and services in the procurement and distribution of superior seeds and plant materials to the developing World during

the past 15 years." The covering letter from Mr. Curtis Farrar, Assistant Administrator for Technical Assistance, included the following: "Our records indicate that this has involved the shipment of more than 25,000 varieties of plant materials. The magnitude of this support has required a person of your considerable technical knowledge and complete dedication to serving the agricultural needs of the developing World. For your patience, understanding, and tireless efforts, we are indeed indebted to you and to the Department of Agriculture. Your cooperation has enhanced this Agency's efforts to improve food production in the developing World."

Ivan L. Lindahl, Ruminant Nutrition Laboratory, NI, received the Animal Science Distinguished Service Award during the recent joint Northeastern sectional meetings of the American Society of Animal Science, and the American Dairy Science Association, which were held in the National Agricultural Library at Beltsville, July 11-13, 1976. This award is given annually in recognition of outstanding contributions in the broad field of animal science to the Northeastern area of the United States. Mr. Lindahl received an inscribed plaque. Also, a portrait of Mr. Lindahl was presented to the Beltsville Agricultural Research Center as a part of the award.

Theodor O. Diener, Plant Virology Laboratory, PPI, received the Ruth Allen Award for innovative research contributions during the recent American Phytopathological Society meeting in Kansas City.

Corlette C. Calvert, Feed Energy Conservation Laboratory, APCI, was awarded a Certificate of Achievement by the Livestock Environmental Sciences Committee.

Cecil H. Wadleigh, Collaborator, Hydrograph Laboratory, PPHI, was presented the Hugh Hammond Bennett Award for 1976 by the Soil Conservation Society of America.

Cash Awards

Roy C. Kimmell and Stanley Allen, Jr., Division of Operations, for suggestion on rebuilding of Robert Shaw pneumatic stats by the use of an ultrasonic cleaner.

Barbara L. Keller, Nutrient Utilization Laboratory, APCI, for reorganizing the Laboratory procurement system and files and assisting in the preparation of a 136-page Manual of Laboratory Procedures, in addition to her duties as Laboratory Secretary.

Margaret H. Taylor, Plant Virology Laboratory, PPI, for exceeding the standards set up for her position in all major duties.

Marilyn M. Putnam, Genetics and Management laboratory, APCI, for performing significantly above standards in typing manuscripts, filing, receiving telephone calls, and handling procurement requests.

Ronald E. Pearson, Genetics and Management Laboratory, APCI, for designing a computer program to record and summarize assignments of experimental dairy cattle to the various dairy cattle research workers at BARC.

Visitors

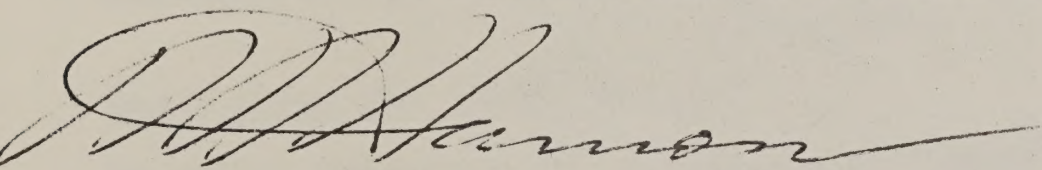
Europe -- Dr. M. Herregods, Hogar National Institute for Horticulture, Vilvoorde, Belgium; Dr. J. Weichmann, Department of Vegetable Crops, Technical University, Munich, Germany; Dr. A. Schwarz, Federal Research Station, Center for the Study of Ornamental and Horticultural Crops, Conthey, Switzerland; and Professor W. S. Duvokot, Sprenger Institute, Wageningen, The Netherlands, visited the Center in conjunction with their participation in the III International Symposium for Vegetable Storage, held at Cornell University, Ithaca, N.Y., August 2-6, 1976. While at BARC, they discussed fruit and vegetable production, storage, and marketing research with members of the Horticultural Crops Research Marketing Laboratory and the Instrumentation Research Laboratory, AMRI.

Pakistan -- Dr. Zahoor Ahmad, Head, Division of Entomology, Cotton Research Institute, Multan, Pakistan, recently visited the Systematic Entomology Laboratory, IIBIII, to discuss cotton insects and their parasites and predators. He talked with Drs. Todd, Herring, Kingsolver, Kramer, Marsh, and Mr. Weisman, concerning insect herbivores and parasites.

Region II, EPA -- Robert Olson, Deputy Director, members of his staff, and a group from New York and New Jersey, recently visited the Biological Waste Management and Soil Nitrogen Laboratory, AEQI. They were presented a short seminar on sewage sludge composting and other land application processes.

Pennsylvania -- Dr. Travis, a past employee at the Center brought six of his students from Westminster College, Pennsylvania, to tour BARC on August 6. They met with Drs. Nickel, PPI, Morgan, AEQI, and Stuart, PGGI.

Israel -- Dr. Aran Uzan, Israel Minister of Agriculture, met with Dr. Hanson, Director of BARC, Drs. Dickinson, Sexton, and Schar, of APCI, Dr. Epstein of AEQI, and Mr. Campbell, PPHI, on August 17. An unusual facet of the meeting was when Dr. Epstein--who lived in Israel for some time--explained his work in Hebrew.



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NOTES FROM THE DIRECTOR

No. 81

September 24, 1976

Joint Program, BARC EEO Committee and Federal Women's Program

The BARC EEO Committee is presenting a program in conjunction with the Federal Women's Program (FWP) coordinator which will be of interest to all employees. A short film presentation at the Adjusting Attitudes meeting, followed by a brief outline of the FWP by Ellen Newman, Northeastern Region Coordinator, will be held in two sessions at BARC on Monday, October 18. There will be a morning presentation at BARC-East in the Electron Microscope Assembly Room, Building 177B, at 10:45 a.m., followed by an identical afternoon program at BARC-West in the Auditorium, Building 003, at 1:15 p.m. The film depicts the feelings and attitudes of both men and women in the work force today, how men look at women in the home and on the job, and how women feel about themselves in the home and on the job. Comparative statistics of the number of males and females employed showed why women are in the work force, if they are heads of households, etc. The movie mentions the equal employment opportunities for women, the awareness of the merit promotion plan--which we would hope all employees would feel is their responsibility--i.e., becoming qualified for promotions, or investigating a field other than the one they presently find themselves in and thus might find themselves having more talent, aptitudes, or skills for jobs other than what they are now doing. It is hoped this would create the attitude in the employees to try to do something for themselves in order to be more productive, happier, and perhaps be able to advance in their jobs. Ms. Newman will discuss some of the points of the FWP, comment on the Affirmative Action Plan, and tie these in with the EEO program. Comments or questions from the audience will wrap up the session.

Fourth Annual BARC Awards Ceremony

Two unique features of the BARC Awards Ceremony were a report on the "Status and Future Outlook for BARC" by Dr. Hanson, and the use of slides during the recognition for Performance and Outside Awards, showing employees in their work environment. Four employees received certificates for 40 years of service; 13 for 35 years; 18 for 30 years; 17 for 25 years; 43 for 20 years; and 59 for 10 years. Four employees were recognized for Suggestion Awards, 25 for Quality Within Grade Increases, and 31 for Cash Awards. Seventeen employees were recognized for having received Outside Awards.

1977 Combined Federal Campaign

The 1977 Combined Federal Campaign begins Wednesday, September 22, and runs through Wednesday, October 20. Keyworkers will be contacting you with pledge cards and campaign information. This worthy cause deserves your support. Sharing means a whole lot of happiness! Your gift will make the difference.

New Chairman, Agricultural Environmental Quality Institute

J. L. Hilton has been appointed to fill the vacancy created by the retirement of L. L. Danielson. Dr. Hilton has served since July 1, 1972, as Chief, Pesticide Action Laboratory, AEQI. He is a highly respected scientist who will bring to this position broad experience and outstanding judgment in assessing research priorities and in developing cooperative research endeavors.

Employee Activities

As an invited participant, C. E. Bodwell, Protein Nutrition Laboratory, NI, attended an Advisory Group Meeting on evaluating the nutritional quality of mutants with altered grain protein characteristics, convened by the Joint FAO/IAEA Division of Atomic Energy in Food and Agriculture, and held at the International Atomic Energy Agency in Vienna, Austria, July 26-30, 1976. Dr. Bodwell presented a paper on "The Use of Enzymatic Assays for Determination of Nutritional Quality." The Advisory Group consisted of 18 scientists from 11 countries. The scientists were either nutritionists or plant breeders and this conference served as a means of bringing these interest groups together. Over half of the time available was spent on developing recommendations and guidelines for use by plant breeders in their efforts to improve the nutritional quality of cereals.

G. R. Beecher, Protein Nutrition Laboratory, NI, attended the X International Congress of Biochemistry held at Hamburg, Federal Republic of Germany, July 25-31, where he presented a paper entitled, "Precise Automated Analyses of Biochemical Compounds at Rapid Sampling Rates." K. K. Stewart, Chief, Nutrient Composition Laboratory, NI, was a coauthor of the paper.

A. B. Borkovec, Chief, Insect Chemosterilants Laboratory, AEQI, organized and conducted an International Conference on Chemosterilization of Insects, at BARC on August 25. The informal conference was sponsored jointly by the XV International Congress of Entomology, and by BARC. The 70 participants at the Conference represented 15 foreign countries and the United States.

XV International Congress of Entomology--About 20 scientists of IIBIII were involved in the XV International Congress of Entomology held in Washington on August 19-27. Curtis W. Sabrosky of the Systematic Entomology Laboratory (SEL), as President of the Congress, had a major role in the organization and operation of the 9-day meeting, and several scientists of SEL and the Beneficial Insect Introduction Laboratory participated in the Congress. The following contributed papers or poster presentations were given:

C. W. Sabrosky with C. Graham, Biosystematics of the Nearctic rodent and rabbit bot flies of the genus Cuterebra.

R. D. Gordon, The phylogeny and zoogeography of the Sticholotidinae beetles of the Western Hemisphere.

T. J. Spilman, Bibliography of Coleoptera of medical importance.

D. R. Whitehead, Speciation patterns and what they mean: Where are we, where have we been, and where are we going.

G. Gordh, Biosystematics of parasitic Hymenoptera, and The phenomenon of insect hyperparasitism and its taxonomic occurrence in the Insecta.

S. Batra, Colletes thoracicus, a solitary bee.

J. R. Coulson with G. Tadic, Studies on some economic aspects of ultraviolet light traps in Yugoslavia.

L. V. Knutson, Uses and users of entomological collections.

In addition to these formal presentations, several staff members were involved in the Congress as organizers, moderators, or discussants in symposia; namely, R. J. Gagné, G. C. Steyskal, F. C. Thompson, W. W. Wirth, D. R. Miller, M. Stoetzel, and R. W. Hodges. One of the most important results of the Congress was the personal contact made between U.S. and foreign colleagues who had previously known each other only by mail. In 1 day during the Congress, SEL scientists at the National Museum were visited by nearly 200 other scientists.

Suzanne W. T. Batra, Beneficial Insect Introduction Laboratory, IIBIII, attended the IV International Symposium on Biological Control of Weeds, in Gainesville, Florida, August 30 through September 2. Dr. Batra, whose research includes biocontrol of weeds, met with other research workers at the Symposium and presented a paper entitled "Ecology and behavior of Acentropus niveus, an aquatic moth on water-milfoil in New York State."

A. B. Borkovec, Chief, Insect Chemosterilants Laboratory, AEQI, presented a paper on "Chemical and Synthetic Aspects of Insect Sterilants" at the Inter-agency Collaborative Research Meeting on Environmental Carcinogenesis at NIH, Bethesda, Maryland, on September 15, 1976.

At the American Chemical Society National Meeting, San Francisco, August 30, 1976, the following papers were presented by Insect Chemosterilants Laboratory, AEQI, personnel:

A. B. DeMilo and J. E. Oliver, A Report on the Synthesis and Insect Growth Regulating Behavior of Some Analogs of Dimilin.

J. E. Oliver, A. B. DeMilo, and D. G. McHaffey, 1-(2,6-Difluorobenzoyl)-3-(4-trifluoromethylphenyl)urea, A Superior Boll Weevil Sterilant.

A. B. DeMilo and A. B. Borkovec, Substituted Arylsulfonanilides as Insect Chemosterilants.

Changes in BARC Committees

BARC EEO Committee--Diane Fleck, Plant Stress Laboratory, PPHI, has replaced Maxine Lutz, Plant Stress Laboratory, PPHI, who has rotated from the Committee. Elroy Allums, Genetics and Management Laboratory, APCI, has replaced Ms. L. F. Randall, Animal Improvement Programs Laboratory, APCI, who has rotated from the Committee.

BARC Training Committee--John Silvius, Light and Plant Growth Laboratory, PPHI, has replaced M. N. Christiansen, Chief, Plant Stress Laboratory, PPHI, who has rotated from the Committee.

BARC Greenhouse Management Committee--George Steffens, Chief, Plant Hormone and Regulators Laboratory, PPHI, has replaced Robert Leffel, who transferred from PPHI.

Honors and Awards

Outside Awards

J. R. Plimmer, Chief, Organic Chemical Synthesis Laboratory, AEQI, was elected a Fellow of the Pesticide Division, American Chemical Society.

Cash Awards

Elizabeth H. Edmunds, Chemical and Biophysical Control Laboratory, AEQI, for outstanding performance of secretarial duties and expediting all operational duties of the Laboratory.

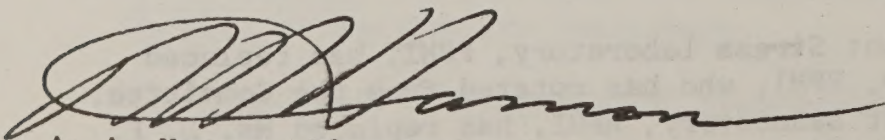
George E. Cantwell, Insect Pathology Laboratory, PPI, for suggesting a modification in building identification signs so that the building number remains the permanent part of the sign and the work units that occupy the building become the temporary part of the sign.

Visitors

Norway--On August 26, 1976, Dr. Ola Syrstad of the Agricultural University of Norway visited the Genetics and Management Laboratory, APCI. With Drs. Miller and Pearson, he discussed design of experiments to detect genetic variation in the ability of dairy cattle to utilize forage. He also visited the Animal Improvement Programs Laboratory, APCI.

The Netherlands--Mr. G. A. Meyer, President, Commodity Board for Livestock and Meat, Netherlands, visited with John C. Bouma, Charles L. Goulston, and Marvin D. Volz, Market Operations Research Laboratory, AMRI, concerning systems for marketing red meat.

France--Dr. J. J. Drea of the European Parasite Laboratory (EPL), France, visited the Beneficial Insect Introduction Laboratory, IIBIII, August 17-25, to coordinate the activities of the EPL for the coming year. During this time, he also visited the International Programs Division, Hyattsville, Maryland, and the Beneficial Insects Research Laboratory, Newark, Delaware, to confer regarding EPL activities. He also attended sessions at the XV International Congress of Entomology, Washington, D.C.



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NOTES FROM THE DIRECTOR

No. 82

October 28, 1976

Staff Changes

Erwin T. Engman has been appointed Chief, Hydrograph Laboratory, PPHI, effective October 4, 1976. Dr. Engman received his B.S. and his M.S. in Agricultural Engineering from Cornell University. He joined ARS in 1961 as an hydraulic engineer at the Sleepers River Research Watershed in Danville, Vermont. His research in Vermont was directed towards precipitation characteristics, snow hydrology, and subsurface contributions to streamflow. In 1966, Dr. Engman was transferred to University Park, Pa., to be Director of the newly-funded Northeast Watershed Research Center. At the Center, Dr. Engman had overall responsibility for program development, staffing, and instrumentation of this new facility. His personal research centered on partial area hydrology. Dr. Engman received his Ph. D. in Civil Engineering (major in hydrology and water resources) from Penn State University in 1974. In April of 1974, Dr. Engman left ARS to join an engineering and environmental consulting firm, NUS Corporation, in Rockville, Md., where he remained until his recent appointment as Laboratory Chief. At NUS, Dr. Engman was involved in the preparation of environmental impact analyses and engineering applications of hydrology.

Lowell E. Campbell has been named Chief, Agricultural Equipment Laboratory, PPHI. Mr. Campbell succeeds L. A. Liljedahl, who becomes Manager of ARS Wind Energy Development Programs. The Agricultural Equipment Laboratory is engaged in applied research on crop production equipment including research on equipment for: (1) pesticide application for effective pest control and reduced environmental impact; (2) improved planting, culture, and harvesting of field, forage and nursery crops; (3) lighting, radiation and related environmental modification for improved crop production and culture systems in fields, greenhouses, and growth rooms; and (4) implementation of USDA-APHIS regulatory programs. Mr. Campbell has been at Beltsville for 29 years as team member and engineering manager of research activities concerned with environmental modification for plants and animals. Specific areas of research include methods of harvesting and drying forage, ultra-violet radiation and poultry lighting, environmental control rooms and systems for plants and animals, agricultural electric equipment, animal housing ventilation systems, ultrasonic and sonic effects in agriculture, temperature measurement and research instrumentation, and lighting in greenhouses and growth rooms.

Richard H. Foote, until recently the Chief, Systematic Entomology Lab (SEL), IIBIII, has returned to his research activities with SEL at the Smithsonian's Natural History Building. His research assignment includes the taxonomy of the fly families Tephritidae, Pyrogothidae, and Psilidae. Dr. Foote will also carry on many of his interests related to information handling in biology. Ronald W. Hodges is serving as Acting Chief, Systematic Entomology Laboratory, IIBIII, until a permanent appointment is made. Dr. Hodges

moved to Beltsville from his positions as Research Entomologist with the Lepidoptera Research Group and as Location Leader for the Washington-based SEL scientists at the Smithsonian's Natural History Building. Replacing Dr. Hodges as Location Leader, in an acting capacity, is Paul M. Marsh, Research Entomologist and Lead Scientist, Hymenoptera Research Group.

New Employees

The Plant Taxonomy Laboratory, PGGI, welcomes T. C. Davidson who is taking over the challenging job of computerizing the files on the ecosystematic distribution of economic plants. Dr. Davidson brings a strong background in Third World botany and computer capabilities to enable the Plant Taxonomy Laboratory to make crop recommendations for remote areas.

A. A. Atchley is temporarily on loan to the Plant Taxonomy Laboratory, PGGI, on ERS contract to study crop potential with Dr. Duke in the Dominican Republic.

Endorsement

The following item was prepared by the Veterinary Services Laboratories and signed by 24 people:

"We met a man the other day who cleans the laboratory the proper way,
One who takes pride in what he does, who sweeps the floor and vacuums the rug.
One who always carries a smile on his face, from 8:00 until 4:30 he is
always in his place.
The least we can do is to show him we care, about the first-class job
since he has been here.
Take this from us for what it is worth, there are few men like him upon this
earth.
Take it from all of us, and that is that, let go who you will but we will
keep Mr. Platt."

Changes in Committee Assignments

Patricia A. Augustine, Poultry Protozoan Diseases Laboratory, API, has replaced Anne M. Chute on our BARC Committee for Library Liaison. Ms. Chute is transferring to the National Technical Editing Staff.

Safety

Fire Extinguisher Training was given to 1,276 BARC employees. The training was provided by the Prince George's County Fire Department. The Fire Department was at BARC 29 days and held 87 classes. Make-up classes for employees who missed the training will be offered in the near future. As a followup, Richard J. Unger, BARC Safety Officer, will be providing all employees with a pamphlet titled, "This Is How Most Fire Extinguishers Work." Mr. Unger advises that the Employees' Association will offer smoke detectors and fire extinguishers in future editions of Bits of BARC. The Fire Extinguisher Training was expensive, but total cost would be worthwhile if just one major fire is prevented or extinguished while still small.

Employee Activities

B. A. Bierl, Organic Chemical Synthesis Laboratory, AEQI, attended the 1976 International Controlled Release Symposium at Akron, Ohio, September 12-15, 1976, and presented a paper on "Evaluation of Controlled-Release Formulations of Insect Pheromones for Mating Disruption" by J. R. Plimmer, B. A. Bierl, E. D. DeVilbiss, and B. L. Smith.

From September 9-12, D. F. Farr and K. H. McKnight, Mycology Laboratory, PPI, attended the annual Foray of the North American Mycological Association. Collecting for this year's foray was conducted in the vicinity of McCall, Idaho. Recent rains along with the presence of about 200 amateur and professional mycologists provided an excellent opportunity to obtain valuable materials for current research projects. Dr. Farr obtained cultural material of several species of Pholiota. Similarly, Dr. McKnight was able to study specimens in the genus Agaricus. Numerous collections for the herbarium were also obtained.

L. D. Owens, Cell Culture and Nitrogen Fixation Laboratory, PPHI, attended the II International Symposium on N_2 Fixation held in Salamanca, Spain, September 13-17, where he presented a paper entitled " N_2 Fixation by a Temperate Corn-Spirillum Association." C. Sloger of the same Lab was coauthor of the presentation.

C. R. Gunn, Plant Taxonomy Laboratory (PTL), PGGI, collected weeds in Mississippi, at the invitation of ARS scientists there. Many of these weeds serve as hosts to crop pests there, and others are of interest to PTL's program on the ecological amplitudes of weeds. E. E. Terrell has contributed to the weed data collection in his more recent wild rice trips to the outer shore of Maryland and to New Jersey. William Jones of the Laboratory is preparing voucher specimens to document these studies.

L. R. Batra, Mycology Laboratory, PPI, conducted the annual Mushroom Walk on Saturday, October 5, 1976, at Rock Creek Park on behalf of the Department of Interior. This event is planned for amateur mycologists of the Washington-Baltimore Metropolitan areas and yields good specimens for the National Fungus Collections.

J. A. Duke, Plant Taxonomy Laboratory, PGGI, was an invited participant in the National Academy of Science Panel meeting on Neglected Tropical Legumes, on the island of Maui, Hawaii, in late August.

L. R. Batra, Mycology Laboratory, PPI, attended the 25th Charles Peck Foray, on September 10-12, in upstate New York. There were over 80 participants, including the faculty and students from universities at Syracuse, Buffalo, Albany, Ithaca, Cortland, Cambridge (Mass.), Chapel Hill, (N. Car.), and scientists from State and Federal agencies of Canada and the United States.

C. E. Harris, Animal Products Marketing Laboratory, AMRI, attended the V European Poultry Conference held at Balzan, Malta, September 5-11, where he presented a paper entitled "Blood Loss by Broilers Slaughtered in Commercial Plants with Manual and Mechanical Killers." T. A. Carter, Associate Professor,

Poultry Science Department, North Carolina State University, was a coauthor of the paper. After the conference, Mr. Harris visited The Netherlands to confer with researchers at the Spelderholt Institute for Poultry Research, Beekbergen; the Research and Development Staff, Stork PMT, Boxmeer; and the ARS European Marketing Research Center, Rotterdam. Then he observed processing operations at three poultry processing plants.

T. J. Spilman, Systematic Entomology Laboratory (SEL), IIBIII, was asked to identify a beetle taken from a recently-deceased woman in Florida. Insects can sometimes be used to determine time of death. The beetle, which usually feeds on meat or carrion was identified as Necrobia rufipes, the redlegged ham beetle. At about the same time, photographs of beetle fragments from the body cavity of an Egyptian mummy were sent to J. M. Kingsolver of the SEL. He identified them as probably being the same species, N. rufipes.

Curtis W. Sabrosky, Systematic Entomology Laboratory, IIBIII, in cooperation with R. C. Reardon of the Forest Service, recently published a study of the tachinid fly parasites of the gypsy moth. The paper, published in the Miscellaneous Publications of the Entomological Society of America, provides, for the first time, keys and descriptions for adults and puparia of the 34 major species attacking the gypsy moth. Concise summaries of the distribution, taxonomy, immature stages, biology and hosts, and the history and status as a parasite are given for each species; brief notes are given for 47 additional species that are minor or incidental parasites. The publication is thoroughly illustrated and will prove to be a valuable aid to the layman as well as to the professional in biological control programs with the gypsy moth.

Honors and Awards

Outstanding Handicapped Federal Employee Award

Robert J. Lillie, Non-Ruminant Animal Nutrition Laboratory, NI, was 1 of 10 to receive the Outstanding Handicapped Federal Employee Award this year. He is 1 of 5 persons in the world who was born deaf and who has a Ph. D. degree.

Moorman Travel Fellowship Award

Robert R. Oltjen, Chief, Ruminant Nutrition Laboratory, NI, was named 1977 winner of the Moorman Manufacturing Company Travel Fellowship for Animal Nutrition Research. The award provides \$1,000 for travel connected with animal nutrition research outside of the United States.

Cash Award

William L. Craig, Jr., Plant Stress Laboratory, PPHI, for development of an automated control system to maintain predetermined concentrations of the air pollutant ozone in controlled environment chambers and greenhouses.

Quality Within Grade

Jack R. Coulson, Chief, Beneficial Insect Introduction Laboratory, IIBIII.

10-Gallon Club, American National Red Cross

Monroe C. Feeser, Division of Operations

Visitors

Israel -- Mrs. Nilly Tirosh, Central Industrial Research Laboratory, Haifa, visited Martin Jacobson, Chief, Biologically Active Natural Products Laboratory, AEQI, on August 3, to discuss insect attractant and repellent programs. Mr. Jacobson was also visited on September 1 by Dr. Rachel Galun, Israel Institute for Biological Research, Ness Ziona, with Dr. Nels Konnerup, Agency for International Development, U.S. State Department, to discuss ongoing cooperative insect pheromone projects sponsored by the U.S.-Israel Binational Science Foundation.

Germany -- Professor Heinz Rembold, Max-Planck-Institute for Biochemistry, Martinsried, West Germany, spent the period August 16-19 visiting with the staff of Biologically Active Natural Products Laboratory, AEQI. He also presented a seminar entitled "Factors Influencing Caste Formation in the Honey Bee."

Germany -- Professor Hans J. Bestmann, Director of Institute of Organic Chemistry, University of Erlangen, Erlangen, West Germany, visited with staff of Biologically Active Natural Products, AEQI, from September 20-22, to discuss the synthesis of natural products. He also presented a seminar entitled "Synthesis of Natural Products (Especially Pheromones) Using the Wittig Reaction."

Japan -- Dr. S. Ishii and Dr. Y. Takahashi, Departments of Entomology and Chemistry, respectively, Kyoto University, Kyoto, Japan, visited Martin Jacobson and J. David Warthen, Jr., Biologically Active Natural Products Laboratory, AEQI, on August 23, to discuss the sex pheromones of the American cockroach.

Kenya -- Dr. Glenn D. Prestwich, International Centre of Insect Physiology and Ecology, Nairobi, Kenya, conferred with Martin Jacobson, Chief, Biologically Active Natural Products Laboratory, AEQI, on August 19, on the chemistry and practical application of insect attractants and feeding deterrents.

Switzerland -- Dr. Heinrich Arn, Federal Association for Research on Fruit, Vine, and Horticulture, Waedenswil, Switzerland, visited Meyer Schwarz and Victor E. Adler, Biologically Active Natural Products Laboratory, AEQI, on September 24, to discuss the chemistry and practical application of insect sex pheromones.

France -- On September 6, Dr. J. Balandreau, Centre de Pedologie du CNRS, Nancy, France, visited Charles Sloger and Lowell Owens, Cell Culture and Nitrogen Fixation Laboratory, PPHI, regarding their research on N₂ fixation by grass-Spirillum associations. His field work with maize has led to the creation of a model to predict the extent of N₂ fixation by such associations.

Egypt -- Messrs. Abel Azim Moussa and Mohamed L. Y. El Wakeel, Agricultural Research Institute, Ministry of Agriculture, Cairo, Egypt, visited the Agricultural Marketing Research Institute on October 4.

France -- Dr. Jean Clastrier of the Laboratoire d'Entomologie, Museum National d'Histoire Naturelle, Paris, visited the Systematic Entomology Laboratory, IIBIII, in Washington, from August 19 to September 19, 1976. During this time his joint study with Willis W. Wirth on the North American species of the Leptoconops kerteszi complex of biting midges was completed and submitted for publication in the USDA Technical Bulletin series. Progress was also made on a joint study with Dr. Wirth on new characters for the classification of the subgenera of the bloodsucking midge genus Culicoides.

Fiji -- Mr. Poganivalu, Minister of Agriculture, Fiji, visited BARC on September 10. He enjoyed a general overview tour and met with Dr. Jackson, NPS, for sugarcane research discussion.

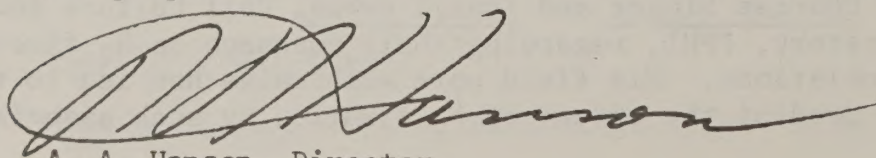
South Africa -- Mr. Peter F. Menne, Production Consultant, Stock Owners Co-Operative, South Africa, visited BARC on September 23. At the request of Aubrey Ventor, Counsellor, Embassy of South Africa, appointments were arranged with Drs. Oltjen and Calvert for discussions of ruminant nutrition and poultry litter feeding.

Israel -- Mr. Moshe Mozes, Director, "Neve Yaar" Regional Experiment Station in Agricultural Research Organization, Israel, accompanied by Mrs. Mozes, visited BARC on September 23. They met with Drs. Stoner, McCollum, and San Antonio for discussion of vegetable crops research, and with Dr. Oltjen for ruminant nutrition information.

China and Taiwan -- Mr. Yu Sung, Scientific Counsellor, Embassy of China, and Mr. K. C. Hsieh, Taiwan, visited BARC on September 7. Appointments were arranged with Drs. Arisumi, Semeniuk, and Stewart for ornamentals research talks, and with Dr. Oakes for information about setting up a Taiwan "gene bank."

Italy -- A group of 50 persons (experts, professors, principals, and students) from Italy visited BARC on September 16. George Pittarelli, Tobacco Laboratory, PGGI, assisted as interpreter throughout their tour. The visitors were particularly pleased at the opportunity to see our Energy Laboratory and the fistulated cows as these projects had not been encountered elsewhere in their U.S. travels.

England -- Dr. G. A. Wheatley, Research Entomologist for the National Vegetable Research Station, Wellesbourne, Warwick, England, spent a day with N. O. Morgan and members of the Biological Evaluation of Chemicals Laboratory, AEQI. Dr. Wheatley was primarily interested in our methods for screening new compounds for controlling insect pests of vegetables, livestock, and people.



A. A. Hanson, Director
Beltsville Agricultural Research Center

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
NORTHEASTERN REGION
AGRICULTURAL RESEARCH CENTER
BELTSVILLE, MARYLAND 20705

NOTES FROM THE DIRECTOR

No. 83

November 24, 1976

FIRE DRILLS

Fire drills will be held in all buildings at BARC. Federal regulations require that all buildings have at least annual fire drills and that all employees participate. Prior to fire drills, some occupants of buildings will be assigned duties as Searchers and Wardens. All persons in the building will receive a list of instructions detailing action to take when the fire alarm is heard. A fire drill is for your benefit. It is practice for the possibility of the real thing.

STAFF CHANGES

Joseph Judd has been appointed Chief, Lipid Nutrition Laboratory, NI.

Dayton Klingman has been appointed Chief, Pesticide Action Laboratory, AEQI.

VISITING RESEARCH SCIENTISTS

Dr. Autar K. Mattoo of the Biochemistry Department of the University of Baroda, India, is spending a year working in the Post-Harvest Plant Physiology Laboratory, AMRI. Dr. Mattoo is working on isolating the enzymatic system responsible for ethylene production in higher plants.

Dr. Edo Chalutz of the Department of Fruit and Vegetable Storage of the Volcani Institute, Rehovoth, Israel, is spending a sabbatical year in the Post-Harvest Plant Physiology Laboratory, AMRI. Dr. Chalutz is working on the ethylene forming system of the mold *Penicillium digitatum* and attempting to determine the function of this physiologically active gas in the metabolism of the fungus.

Dr. Jerome B. Weber, Department of Crop Science, North Carolina State University, Raleigh, N.C., will spend a 6-month sabbatical leave in the Pesticide Degradation Laboratory, AEQI. Dr. Weber is one of the leading authorities on pesticide movement and absorption in soils. He plans to spend time working with members of the Pesticide Degradation Laboratory on soil pesticide problems of mutual interest and will also be working on the preparation of a new book.

Mr. Mohamad Muselmani, Head of Damascus Horticulture Section, Syrian Ministry of Agriculture, is spending almost 4 months in the Nematology Laboratory, PPI, for training in nematology. Primary emphasis here is on taxonomy and related areas with A. Morgan Golden, though other Nematology Laboratory scientists discuss additional fundamental aspects of nematology with him also. In January 1977, Mr. Muselmani will leave Beltsville for several months' visit with ARS nematologists in Florida, Texas, and California, before returning to Syria in late May.

1977 COMBINED FEDERAL CAMPAIGN

The following letter was received from T. W. Edminster, ARS Administrator:

"I want to personally thank you and all of your staff for the fine support you gave to the 1977 Combined Federal Campaign. This is an important community project, and we are always proud when our units do an outstanding job of supporting it. Certainly, your 109.6% of the goal is a firm indication of the high priority that your group gave to this endeavor.

"Again, thanks to each and every one of you."

COMMITTEE ON SCHOLARLY COMMUNICATION WITH THE PEOPLE'S REPUBLIC OF CHINA

James L. Hilton, Chairman, Agricultural Environmental Quality Institute, received the following letter from Alexander P. DeAngelis:

"I would like to express the appreciation of the Committee on Scholarly Communication with the People's Republic of China for receiving the Chinese Environmental Sciences Delegation. Because it was the first visit of PRC environmental scientists to the United States, we regard it as an extremely important step in establishing ties between Chinese and American environmental scientists and institutions. The Beltsville Agricultural Research Center has had a very important part of this enterprise.

"The full value of this visit will only become apparent with time. Exchanges with the People's Republic of China at the present time are few and rather formal. Continuity of contacts has not been easy. Nevertheless, an effort to maintain continuity is necessary if the relationship is to develop further. In this regard, I would urge you to try and develop some direct contacts with the leader and deputy leader of the delegation or with other delegation members if you so desire. Letters may be sent to them directly at their affiliated institutions. The Committee would be very interested in knowing whether these efforts are successful. You also may wish to contact them through Mr. Tsien Hao at the Chinese Scientific and Technical Association in Peking (no street address is necessary).

"Once again, thank you for all your help. If you have any questions or problems that you wish to discuss, please do not hesitate to contact us."

EMPLOYEE ACTIVITIES

Robert M. Faust, Insect Pathology Laboratory, PPI, recently returned from a 2-week trip to Armenia SSR, USSR. He conferred with Dr. N. Neresian, Deputy Director, Department of Foreign Relations, Academy of Sciences of the Armenian SSR, with Dr. E. Afrikian, Director of the Institute of Microbiology, Academy of Sciences of the Armenian SSR and his associates, and with Dr. O. Alioshina, Director All-Union Research Institute of Microbiological Means of Plant Protection and Bacteriology, Moscow, USSR. The purpose

of this collaboration was to implement a cooperative research program, under the US-USSR Science and Technology Agreement, on fundamental and applied research in genetic engineering of entomopathogenic bacteria. After reviewing the capabilities and adequacy of facilities and personnel in connection with the direction in which the research should be conducted, a 10-year program was developed and submitted to the National Science Foundation in the United States and to the All-Union Research Institute of Microbiological Means of Plant Protection and Bacteriology in the USSR for approval. The aim of the project is to develop more potent and broad spectrum commercial bacterial agents for biological control of noxious insects.

Julius Feldmesser, Nematology Laboratory, PPI, presented an invited paper on controlled release of nematocides at the Third International Controlled Release Pesticide Symposium, held at the University of Akron, Akron, Ohio, September 13-15, 1976. (Coauthors were Drs. B. S. Shasha and W. M. Doane, Northern Regional Research Center, ARS, Peoria, Illinois.) Dr. Feldmesser also served as Chairman of the Insecticide-Nematicide Section.

Clarence E. Bodwell, Protein Nutrition Laboratory, NI, gave an invited paper in a symposium on "Measuring Protein Quality for Human Nutrition" held during the 61st Annual Meeting of the American Association of Cereal Chemists, October 5-8, 1976, New Orleans. Dr. Bodwell's paper, entitled "Applications of Animal Data to Human Nutrition," focused on an evaluation of the use of animal bioassays for estimating the nutritive value of proteins in relation to nutritional labeling.

At the invitation of the Pontifical Academy of Sciences, Martin Jacobson, Chief, Biologically Active Natural Products Laboratory, AEQI, attended a Study Week on Natural Products and the Protection of Plants sponsored by the Academy and the Vatican in Rome, Italy, October 18-23. He was 1 of 32 participating authorities in the field of natural products consisting of chemists, entomologists, insect physiologists, insect pathologists, plant physiologists, plant pathologists, and geneticists from nine countries. The Study Week consisted of presentations and intensive discussion sessions, and Mr. Jacobson spoke on the topic "Impact of Natural Plant Protectants on the Environment." Following the completion of the Study Week all participants attended a private audience with Pope Paul VI at which His Holiness expressed appreciation to the participants for their efforts to increase world crop production.

Jack R. Plimmer, Chief, Organic Chemical Synthesis Laboratory, AEQI, visited the Institute for Advanced Studies of the National Polytechnic Institute, Mexico City, Mexico, October 24-30, 1976, to discuss research in pesticide chemistry.

AMRI Represented at the National American Wholesale Grocers' Association Productivity Conference--This conference, a first of its kind, was held in Minneapolis, Minnesota, October 24-27, 1976, and was attended by more than 850 food industry representatives and 100 suppliers. It consisted of concurrent 2-day seminars, 15 special disciplines workshops, and included tours of 25 food distribution facilities. James Karitas, Food Distribution Research Laboratory, AMRI, was invited to present a paper on delivery of groceries

and frozen foods to restaurants in mixed or separate loads. John Bouma, Chief, Market Operations Research Laboratory, AMRI, was invited to present a paper on methods for shipping groceries from manufacturers to wholesale warehouses. Karl Hoke, Transportation and Packaging Research Laboratory, AMRI, was invited to present a paper on reducing losses and extending shelf life of fresh meat.

On October 21, 1976, BARC was host to a group of about 30 undergraduate students from universities throughout the country. The students were participating in a Washington Bicentennial Semester directed to the role of American technology in establishing social policy. The program was sponsored by the National Collegiate Honors Council. At BARC, they met with Gerald E. Carlson, Chief, Light and Plant Growth Laboratory, PPHI. Dr. Carlson discussed with them the impact, from a scientist's point of view, that the problems being researched in his Laboratory may have on future food policy.

On October 13, the Hydrograph Laboratory hosted a hydrology seminar. The guest speaker was Dr. K. J. Langford of the Melbourne & Metropolitan Board of Works, Melbourne, Australia. The title of the seminar was "Some Practical Uses of Mathematical Models of the Hydrologic Cycle," which covered such topics as the accuracy of models given the existing quality and extent to hydrological data and their ability to detect hydrological change; the ability of models to ascribe causes for hydrological change; the use of models in interpreting the results of catchment experiments, particularly the variability of responses to treatment caused by variability of climatic conditions at the time of treatment; and the use of models in predicting probability levels for future streamflows and reservoir storage levels given initial soil dryness and groundwater levels in the catchment. The seminar was attended by representatives from the National Weather Service, the Soil Conservation Service, the University of Maryland, NASA, and ARS, Cochocton, Ohio. Dr. Langford was in the United States consulting with J. L. McGuinness of the North Appalachian Experimental Watershed Center, Cochocton, Ohio, and members of the Hydrograph Laboratory, regarding completion of technical papers on modeling of reforested watersheds at Cochocton.

HONORS AND AWARDS

Julius Feldmesser, Nematology Laboratory, PPI, has been appointed to the Governing Board of the International Controlled Release Pesticide Symposium (ICRPS) for 1976-1978.

Morton E. Beroza, former Chief, Organic Chemical Synthesis Laboratory, AEQI, has been selected as the 1976 recipient of the Burdick and Jackson International Award for Research in Pesticide Chemistry, by the Division of Pesticide Chemistry of the American Chemical Society.

C Edith Weir

C. Edith Weir, Acting Director
Beltsville Agricultural Research Center

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NOTES FROM THE DIRECTOR

No. 84

December 23, 1976

NEW LABORATORY NAMES

The Pesticide Action Laboratory, AEQI, has been renamed the Weed Science Laboratory. Dayton L. Klingman continues as Chief.

The Ornamentals Laboratory, PGGI, has been renamed the Florist and Nursery Crops Laboratory. H. Marc Cathey continues as Chief.

STAFF CHANGES

Ronald W. Hodges has been appointed Chief, Systematic Entomology Laboratory, IIBIII.

Leon F. Pheder has been appointed Chief, Utilities and Services Branch, Division of Operations. Mr. Pheder is an electrical engineering graduate of the Newark College of Engineering, and a Registered Professional Engineer in New York and New Jersey.

VISITING SCIENTISTS

Dr. Joseph Vanderslice of the Chemistry Department of the University of Maryland is spending a sabbatical year in the Nutrient Composition Laboratory, NI. Dr. Vanderslice is working on the development of a new analysis system for the B₆ vitamers.

Dr. Gerald W. Bodoh has entered a postdoctoral assignment with the Genetics and Management Laboratory, APGI. He will be completing studies on the use of cell count screening tests in mastitis management and on the evaluation of complete-feed regimes in dairy cattle breeding management. This assignment is a cooperative effort with the Dairy Science Department, University of Maryland, in which Dr. Bodoh is a Research Associate. Dr. Bodoh is a graduate of the University of Wisconsin and has done postdoctoral study at the University of Illinois.

NEW STAFF MEMBERS

Claude Veillon has recently joined the staff of the Vitamin and Mineral Nutrition Laboratory, NI, as a research chemist. Dr. Veillon received his Ph. D. in analytical chemistry in 1965 from the University of Florida, under the direction of Professor J. D. Winefordner. He was awarded a National Academy of Sciences Postdoctoral Fellowship and spent the following 2 years at the National Bureau of Standards doing research on inductively-coupled plasma emission sources. He then joined the faculty at the University of

Houston and, in 1972, was promoted to Associate Professor of Analytical Chemistry. In 1974, Dr. Veillon was awarded a 2-year NIH Special Research Fellowship, and utilized this in the Biophysics Research Laboratory of the Harvard Medical School studying metalloenzyme chemistry relevant to cancer biology. Dr. Veillon's principal area of research interest is analytical atomic spectroscopy, with major emphasis in recent years on atomic fluorescence spectrometry as a means of trace elemental determination and its application to problems of biological importance. He has an extensive background in analytical and biochemistry, with about 30 publications in these areas, including journal articles, book chapters, and one book. He has also presented numerous papers at national and international meetings, and has organized and chaired meeting symposia for the Society for Applied Spectroscopy and NIH. He has conducted short courses on atomic absorption spectrometry, and served as an SAS National Tour Speaker.

IDENTIFICATION CARDS

Employees at all times, and especially after duty hours and on weekends, are expected to furnish Security Guards, upon request, identification in the form of a USDA Identification Card.

REPORTING OF THEFTS

Employees are reminded that all thefts occurring on the Research Center should be reported promptly to the Security Section, Ext. 42107. Also, employees are encouraged to keep their cars locked. There have been three reported thefts of automobiles on the Research Center in recent weeks.

SECURITY OF SCALES AND BALANCES

The number of scale theft incidents has increased in the past few months. The stolen scales are both costly and time-consuming to replace. It is strongly recommended that all scales be stored under lock and key during off-hours, or locked with the device used on typewriters, if appropriate, to aid in combating future thefts.

LETTERS OF APPRECIATION

Gordon Gordh, Systematic Entomology Laboratory, IIBIII, and Lloyd Knutson, Chairman, IIBIII, received letters of appreciation from Charles F. Ison, Principal, Rock Creek Palisades School. They assisted in the school's outdoor education program.

Denis E. LaCroix, Dairy Foods Nutrition Laboratory, NI, expressed his appreciation for training he received at a recent BARC onsite First Aid Course. He states, "...Shortly after I completed my training, my wife awakened about 1 a.m. and was having an allergic reaction to medication and went into hyperventilation. The training that I received definitely helped me to relate to the doctor by phone and he was able to direct my actions until the ambulance arrived...By virtue of the First Aid Course, I was able to cope and understand the events and thus react in an orderly and calm manner in providing immediate aid...."

James F. Parr, Chief, Biological Waste Management and Soil Nitrogen Laboratory, AEQI, received the following from Jack Potosnak, Chief, EPA, Region III:

"Your agency's representatives, both during the tour and the subsequent seminar, Dr. Eliot Epstein, Mr. G. B. Willson, Dr. W. D. Burge, and Mr. Dan Colasicco, were extremely informative and presented their material at a level which could be appreciated by our group.

"We were impressed by a physical operation as well as the objectives of the facility. We left with a greater appreciation and a new prospective on the further use of this apparently highly successful alternative in evaluating land application of municipal sludge."

T. W. Edminster, Administrator, ARS, received the following from Harry C. Mussman, Acting Administrator, APHIS, regarding Paul E. James, Agricultural Equipment Laboratory, PPHI:

"I want to express my appreciation to you for arranging for Mr. Paul James to attend the meeting of the Secretary's Advisory Committee on Hog Cholera Eradication held in Miami, Florida, on November 8, 1976. This Committee meeting was held concurrent with the 80th Annual Meeting of the U.S. Animal Health Association.

"The handling of waste foods and garbage is both complicated and controversial. Mr. James' expertise was extremely valuable to the Committee."

CHANGES IN COMMITTEE ASSIGNMENTS

BARC Committee for Library Liaison:

J. G. Buta, Plant Hormone and Regulators Laboratory, PPHI, has been reappointed. R. W. Hodges, Chief, Systematic Entomology Laboratory, IIBIII, has been appointed replacing R. H. Foote, who rotated from the committee. P. A. Augustine, Poultry Protozoan Diseases Laboratory, API, has been reappointed. J. E. Baker, Post-Harvest Plant Physiology Laboratory, AMRI, has been appointed replacing K. Ono, who rotated from the committee.

BARC Tissue Culture Committee:

R. H. Goodwin, Insect Pathology Laboratory, PPI, has been appointed replacing J. L. Vaughn, who rotated from the committee.

BARC Safety Committee:

J. W. Neal, Jr., Field Crops Laboratory, PGGI, has been appointed replacing J. R. Stavely, who rotated from the committee.

BARC Greenhouse Management Committee:

A. K. Stoner, Vegetable Laboratory, PGGI, has been appointed replacing R. H. Zimmerman, who rotated from the committee. C. P. Coffman, Weed Science Laboratory, AEQI, has been appointed replacing W. A. Gentner, who rotated from the committee.

BARC Energy Conservation Committee:

P. E. James, Agricultural Equipment Laboratory, PPHI, has been reappointed. A. D. Draper, Fruit Laboratory, PGGI, has been appointed replacing A. K. Stoner, who rotated from the committee.

EMPLOYEE ACTIVITIES

Curtis W. Sabrosky, Systematic Entomology Laboratory, IIBIII, attended The General Assembly of the International Union of Biological Sciences, Bangalore, India, September 27 to October 3, with associated meetings of the International Commission on Zoological Nomenclature, its Council, and the Editorial Committee, for a revised edition of the International Code of Zoological Nomenclature. Dr. Sabrosky was first elected to the Commission in August 1963, and at this meeting he was reelected to another term. Before the meetings, he reviewed a PL-480 project at St. John's College, Agra, India, and, after the meetings, he reviewed a project at the University of Karachi, and three at the laboratory of the Commonwealth Institute of Biological Control, in Rawalpindi, Pakistan.

The Museum Data Bank Committee, an organization funded by the National Museum Act, met in the Range 4 Conference Room, November 15-16. Richard H. Foote, Systematic Entomology Laboratory, IIBIII, the USDA representative to this committee, acted as host for the meeting. For several years, this committee has been meeting semiannually, at various sites within the United States, to consider ways in which museum curators, researchers, and administrators might more effectively meet their data-handling requirements. Zoological collections, represented by Dr. Foote, are only one of the many included in the committee's mandate.

Ronald Fayer, Livestock Protozoan Diseases Laboratory, API, presented invited seminars on the life cycle and pathology of Sarcocystis to the faculties and students of the Department of Pathobiology, School of Veterinary Medicine, Ohio State University, and the Department of Parasitology, School of Veterinary Medicine, University of Illinois, on October 4 and 5. He then met with Drs. Stalheim, Barnett, and Hughes, at the National Animal Disease Center, Ames, Iowa, to review their cooperative study on Sarcocystis-induced bovine abortion.

Thomas E. Amerault, Livestock Protozoan Diseases Laboratory, API, attended the International Conference on Tick-Borne Diseases and Their Vectors, in Edinburgh, Scotland, from September 27 to October 1. While at the University of Edinburgh, he presented a paper on the Recent Advances in the Serologic Diagnosis of Anaplasmosis and Babesiosis.

E. E. Lund, Poultry Protozoan Diseases Laboratory, API, reviewed a PL-480 project on histomoniasis in Poland. He discussed the progress with the principal investigator, Dr. Stefan Stepkowski, in Lublin, and together they made a number of collecting trips to local turkey farms. These onsite visits gave Dr. Lund a first-hand view of turkey husbandry practices in Poland.

R. S. Isenstein, Non-Ruminant Helminthic Diseases Laboratory, API, attended the Fourth International Conference on Trichinellosis, in Poznan, Poland, August 26-28, where he presented a paper entitled Testing Swine for Trichinellosis in the U.S., and chaired a session on Epidemiology and Control of Trichinellosis. While in Poland, he also visited several laboratories where he is involved with PL-480 projects. Dr. Isenstein also visited The Netherlands, where he consulted with researchers at the Rijks Instituut Voor de Volksgezondheid who are working on trichinellosis diagnosis.

Kenneth H. Brasfield, Chief, Food Distribution Research Laboratory, AMRI, was interviewed for three of USDA's "Down to Earth" TV programs concerning his Laboratory's work on food distribution facility research. The interviews were recorded and were televised in the Washington, D.C. area, on Channel 4, on November 30, December 1, and December 2, 1976.

R. E. Pearson, Genetics and Management Laboratory, APGI, attended the NC-2 Regional Research Committee Meeting on Dairy Cattle Breeding, on November 8-10. The committee is currently in the process of revising the regional project. Dr. Pearson is chairman of the committee preparing the revision. Dr. Janos Dohy of Hungary was Dr. Pearson's guest at the meeting and after the meeting returned to Beltsville with him to visit with Drs. James Smith, Robert Miller, Duane Norman, and Rex Powell, of the Animal Physiology and Genetics Institute. Dr. Dohy is in the United States as part of an exchange program between the United States and the Hungarian Academy of Sciences.

William R. Nickle, Nematology Laboratory, PPI, recently appeared on local television in the two ARS programs, "A Better Way," and "Across the Fence." He discussed the establishment and overwintering of the mosquito mermithid from one of the field ponds at Ft. Meade, Maryland. He also stressed that the product is available commercially at a low price and could be useful to small farmers and others who may have wet spots on their property.

Edward W. Baker, Systematic Entomology Laboratory, IIBIII, was invited to lecture at an informal seminar on current problems in the systematics and distribution of the spider mites. The meeting was held at the Department of Entomology, University of Georgia, October 26.

Ronald H. Goodwin, Insect Pathology Laboratory, PPI, recently presented an invited paper on Invertebrate Tissue Culture Techniques and In Vitro Baculovirus Host Range, at the International Colloquium on Invertebrate

Pathology held at Queen's University, Kingston, Ontario, Canada, August 29 to September 2. (Coauthors were Drs. J. R. Adams, J. L. Vaughn, and S. J. Louloudes.) Dr. Goodwin's paper pointed out the recent excellent progress being achieved in the use of insect tissue culture for production of occluded insect viruses for control purposes, as well as the current studies demonstrating the safe restriction of these viruses at the cellular level to pest host genera and families of insects.

H. E. Heggestad, Plant Stress Laboratory, PPHI, participated recently in the American Chemical Society's radio program entitled "Man and Molecules." Dr. Heggestad and Mr. Stuart Finley, who is known to many for his documentary TV programs such as pollution of the Potomac River, discussed plants and air pollution. The taped program was released to 500 radio stations in and outside the United States, which are participating in the "Man and Molecules" program. A transcript copy (No. 827) is available from the Washington office of the American Chemical Society.

C. D. Foy, A. L. Fleming, and M. N. Christiansen, Plant Stress Laboratory, PPHI, recently presented invitational papers at a symposium entitled "Crop Tolerance to Suboptimal Land Conditions," sponsored jointly by ASA Divisions A-6, C-1, C-2, S-4, and C-3, held in conjunction with the annual ASA Meetings in Houston, Texas, November 28 to December 3, 1976. Session I of the symposium, containing several papers, dealt with Tropical or Subtropical Plants with Special Tolerances to Suboptimal Land Conditions. Session II, consisting of eight papers, was entitled Physiology of Crop Tolerance. The paper contributed by Dr. Foy and Mr. Fleming was entitled The Available Aluminum and Manganese in Acid Soils. Dr. Christiansen's paper concerned The Physiology of Plant Tolerance to Temperature Extremes. The proceedings of this symposium will be published by the American Society of Agronomy.

M. N. Christiansen, C. D. Foy, J. C. Brown, Robert Howell, and Alton Fleming, Plant Stress Laboratory, PPHI, participated in an invitational workshop on Adaptation of Plants to Mineral Stress in Problem Soils, held at Beltsville, Maryland, on November 22-25. The purpose of the workshop (sponsored jointly by USDA, USAID, and Cornell University) was to determine the "state of the art" of tailoring plants to fit problem soils and to identify specific areas of needed research. The program included discussions on the identification of problem soil areas of the world, the plant genetic potentials for alleviating such problems, and techniques of screening plants for tolerance to mineral toxicity or deficiency. Drs. Christiansen, Foy, and Brown, served on the Program Planning Committee, and Dr. Christiansen chaired a half-day session on Overview of Soil Mineral Stress--Worldwide. Dr. Foy presented a paper entitled General Principles Involved in Screening for Iron Efficiency. Proceedings of the conference will be published within 6 months.

The Animal Parasitology Institute hosted the 503rd meeting of the Helminthological Society of Washington, Friday evening, November 19. Merle Colglazier presided over a scientific program of six papers by Robert Rew, Patricia Allen, Philip Madden, Robert Romanowski, Frank Stringfellow, and David Stiller, all of API. Officers elected for 1977 are: President, Kendall G. Powers, FDA, Beltsville; Vice President, Harley G. Sheffield, NIH, Bethesda; Corresponding Secretary-Treasurer, J. Ralph Lichtenfels, API; Recording Secretary, Ronald Fayer, API.

On November 9, the Plant Stress Laboratory, PPHI, was host to an Air Pollution Workshop entitled Air Pollution and Resistance, sponsored by NE-82 Northeastern Regional Air Pollution Technical Committee. Approximately 35 scientists attended--primarily plant breeders and air pollution scientists from Beltsville and the States in the Northeast. There was representation, also, from some Midwestern States and California. The next regional air pollution project will give emphasis to identifying physiological and biochemical characteristics of varieties of agricultural and forest species resistant and susceptible to ozone. The Technical Committee had its annual meeting at Beltsville on November 10.

H. E. Heggestad is a member of the Technical Committee. Foreign scientists with interest in air pollution research visited the Laboratory during the last week of October and the first week of November. The visitors included Dr. Haruhiko Isikawa, Chief, Terrestrial Biology, Central Research Institute of Electric Power Industry, Abiko, Chiba, Japan; Dr. A. Baille, Centre de Recherches Agronomiques, Station de Bioclimatologie, Avignon, France; and Drs. A. S. Weaving and D. Spincer from the Imperial Tobacco Company, Bristol, England. Oxidant air pollution, as related to vegetation, is currently of much interest also in these countries.

COOPERATION

Many foreign requests have been received for permission to use the Dairy Foods Nutrition Laboratory process for manufacturing animal feed blocks from whole or fractionated cheese whey. By controlling crystallization of lactose during concentration, solidification of the liquid whey occurs without drying. The resulting soluble "lick blocks" provide a simple method of feeding nutritious whey to animals. Such blocks are currently being used in Australia as a feed supplement for dairy cattle. Permission to use the process has also been granted to companies and co-ops in England, Ireland, and France.

Howard Jaffe, Chemical and Biophysical Control Laboratory, AEQI, is cooperating with R. O. Drummond, U.S. Livestock Insects Laboratory, Kerrville, Texas. Dr. Jaffe is preparing formulations for injection in the ears of cattle for protection against the Gulf Coast Tick. The field tests will be conducted at Kerrville.

HONORS AND AWARDS

Cash Awards:

Lucy Gentry, Poultry Protozoan Diseases Laboratory, API, for outstanding performance of duties.

Martha W. Hood, Parasite Classification and Distribution Unit, API, for outstanding performance as a staff member of the Index-Catalogue of Medical and Veterinary Zoology.

Catherine Diane McMullen, Tobacco Laboratory, PGGI, for devotion and responsiveness to the new assignment resulting in completed work beyond the normal expectancy.

Virginia C. Morris, Vitamin and Mineral Nutrition Laboratory, NI, for making substantial modification of a research operating procedure which demonstrated much greater difference between control and experimental animals.

Quality Within-Grade Increases:

Elizabeth J. Sarantos, Florist and Nursery Crops Laboratory, PGGI.

Mary Louise Best, Weed Science Laboratory, AEQI.

Eileen O. Parker, Pesticide Degradation Laboratory, AEQI.

Charles E. Bass, Cell Culture and Nitrogen Fixation Laboratory, PPHI.

George M. Malakatis, Ruminant Helminthic Diseases Laboratory, API.

Edward C. Uebel, Biologically Active Natural Products Laboratory, AEQI.

Donald C. Davis, Livestock Protozoan Diseases Laboratory, API.

Special Recognition:

Officer Leonard A. Wallace, Security Section, Utilities and Services Branch, Division of Operations, received the award for academic excellence, at the graduation of Class 76-12 from the Federal Protective Service Training Academy on October 22, 1976.

Election to the Local Board of Managers of the Chemical Society of Washington for 1977:

Kenneth R. Hill, Chief, Analytical Chemistry Laboratory, AEQI.

John M. Ruth, Organic Chemical Synthesis Laboratory, AEQI.

Nagabhushanam Mandava, Plant Hormone and Regulators Laboratory, PPHI.

VISITORS

Chile--Luis Zelada and Sergio E. Morales of the Corporacion De Fomento De La Produccion reviewed recent developments in food distribution centers in the United States with Earl G. Taylor, Food Distribution Laboratory, AMRI. The group also visited the Maryland Wholesale Food Distribution Center at Jessup. They plan to visit several other markets in the United States and will be visiting Paris and Amsterdam. This tour of world markets should result in a plan for a new food distribution center to serve Santiago.

India--On October 19, 1976, Dr. N. K. Jain, Director, Tea Research Association, Tocklai Experimental Station, Jorhat, Assam, India, met with members of the Vegetable Laboratory, PGGI, to discuss ongoing vegetable research programs.

New York--Dr. H. Isseroff, Biology Department, State University College, Buffalo, New York, visited the Animal Parasitology Institute, November 18, 1976, in conjunction with a collaborative research project with R. A. Knight, Ruminant Helminthic Diseases Laboratory, on the pathogenesis of liver fluke infection in ruminants.

Spain--Representatives from the Ministry of Agriculture of Spain, and the FMC Corporation, visited R. E. Webb, Vegetable Laboratory, PGGI, on November 3, relative to our potato improvement program and production practices.

Commercial--Drs. G. C. Scott, Vice President, and V. J. Theodorides, Manager for Research on Veterinary Products, Smith Kline Animal Health Products, visited the Animal Parasitology Institute, November 18, to discuss development and evaluation of anthelmintics with H. Herlich and M. L. Colglazier of the Ruminant Helminthic Diseases Laboratory.

Hungary--On November 4, 1976, Mr. Istvan Jozsef Boros, from the Ministry of Agriculture, Hungary, met with R. E. Webb, Vegetable Laboratory, PGGI, to discuss opportunities for cooperative research on vegetable research, with particular reference to obtaining potato clones, seedling tuber progenies, and true seed.

Indiana--Dr. S. M. Gaafar, Purdue University, visited the Animal Parasitology Institute, August 31, to discuss API research programs and possible cooperative research, with F. D. Enzie. He visited, also, with H. Herlich and F. G. Tromba, to discuss current programs, problems, and other matters of common interest pertaining to treatment, prevention, and control of parasitism in livestock.

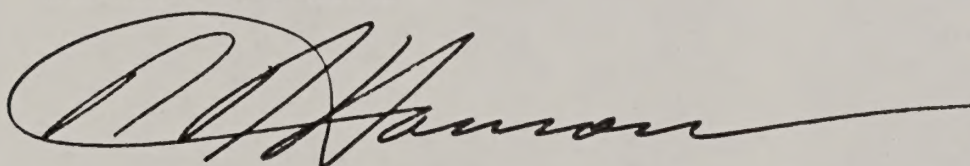
Nigeria--On November 10, Mr. Dale Suchomel, International Potato Center Representative in Nigeria, met with R. E. Webb, Vegetable Laboratory, PGGI, to discuss recent progress in potato improvement, and arrange to receive potato clones, seedling tubers, and true seed for evaluation in Nigeria.

Russia--Dr. I. A. Khorkov, Director, Shcholkovskoi Biofactory, Dr. M. A. Sidorov, Chief, Microbiology Laboratory, All Union Institute for Experimental Veterinary Medicine, and Dr. A. A. Kulikovskii, Senior Scientific Worker, All Union Scientific Research Institute for Veterinary Sanitation, USSR, visited the Animal Parasitology Institute, October 14, to discuss the current research program of the Institute with Drs. T. O. Roby, D. K. McLoughlin, and J. R. Lichtenfels.

Wisconsin--Dr. George Hosfield, Geneticist, ARS, University of Wisconsin, visited with members of the Vegetable Laboratory, PGGI, concerning current research on vegetables. He also gave a very interesting and informative seminar entitled "Application of Physiological Genetics to Vegetable Improvement."

Canada and Mississippi--The Animal Parasitology Institute was host recently to two graduate students studying helminthology. Mr. Murray J. Kennedy, Department of Zoology, University of British Columbia, Vancouver, visited November 9-15, and Mr. Daniel R. Brooks, Parasitology Section, Gulf Coast Research Laboratory, Ocean Springs, Mississippi, visited November 15-16. Both students discussed their work with J. Ralph Lichtenfels, studied specimens in the National Parasite Collection, and searched the card files of the Index-Catalogue of Medical and Veterinary Zoology. Mr. Brooks presented a seminar to the API staff on the use of cladistics to elucidate relationships of cestodes.

France--On November 12, Dr. Jean-Rene Delcaire, University of Paris, met with James P. San Antonio and Kenneth L. Deahl, Vegetable Laboratory, PGGI, concerning mushroom production, and also visited the BARC mushroom research facilities.

A handwritten signature in dark ink, appearing to read "A. A. Hanson", with a long horizontal flourish extending to the right.

A. A. Hanson, Director
Beltsville Agricultural Research Center

